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Tu7a

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STAFF REPORT REGULAR CALENDAR

CDP Application No.: **E-00-008**

Consistency

Certification No. **CC-110-00**

Project Applicant: **Global West Network, Inc.**

Location: State and federal waters offshore Morro Bay (San Luis Obispo County), Leadbetter Beach (City of Santa Barbara), Manhattan Beach (City of Manhattan Beach), Mission Beach (City of San Diego), and City of San Diego (Exhibit 1).

Project Description: Install a festoon fiber optic cable in state and federal waters along the California coastline leading onshore at four locations noted above. Project components include burying the cable from mean high tide line to, on average, 10 miles offshore; boring 7 conduits (2 each at Morro Bay, Santa Barbara, and Manhattan Beach; 1 at San Diego) under the seafloor from shore and surfacing in approximately 30-60 feet of water and; pulling cable onshore in San Diego in existing underground conduits for a distance of approximately 2.5 miles.

Related Approvals: State Lands Commission. Permit for Telephone Right of Way No. PRC 8168.9 approved on June 27, 2000. November 2000 amendment to permit pending.

State Water Resources Control Board. Section 401 Water Quality Certification approved on August 11, 2000.

U.S. Army Corps of Engineers. Nationwide Permit 12 pending.

SYNOPSIS

The applicant proposes to construct and operate one fiber optic cable in an offshore festoon network along the California coast from Morro Bay to San Diego with onshore landings in the Cities of Morro Bay (Exhibit 2, North Point Landing Area), Santa Barbara (Exhibit 3, Leadbetter Beach parking lot), Manhattan Beach (Exhibit 4, Bayview Terrace Park), and San Diego (Exhibit 5, Pacific Beach Drive parking lot). At each landing, the cable will be brought onshore through a conduit horizontally drilled from an onshore location that will surface generally 2000 to 4600 feet offshore.

Offshore, the applicant proposes to bury approximately 93% of the total cable route to a target depth of 1.0-meter (approximately 3.3 feet), where feasible. The applicant estimates that the cable will be laid on approximately 35.8 km (21.5 miles) of low-relief (less than 1.0 meter) rocky substrates. Within state waters and federal waters, a total of approximately 4.2 km and 31.6 km, respectively, of low-relief rocky substrate will be crossed. As a festoon or loop network, the cable will traverse state and federal waters a total of approximately 358 miles (573 km). Approximately 90% of the total route or 321 miles (514 km) lie within federal waters with a maximum offshore distance of 11.8 nautical miles; 10% of the route or 36.8 miles exists in state waters.

The portion of the proposed project lying within the Commission's retained coastal permit jurisdiction, and which is the subject of coastal development permit application E-00-008, is the burial of the cable from a location approximately 2,000 to 4,600 feet offshore of the Morro Bay, Santa Barbara, and Manhattan Beach landings to the territorial extent of California State waters; and onshore portions (roughly 2.5 miles) of the route in the City of San Diego, extending offshore to the territorial extent of California State waters.

Within the City of San Diego, the Commission's retained permit jurisdiction onshore includes approximately 2.5 miles of cable installation in existing conduit (owned by Pacific Bell). The route includes: (1) the cable landing at Pacific Beach Drive to Bayard Street; (2) Pacific Beach Drive from West Briarfield Circle to Dawes Street; (3) Dawes Street from Pacific Beach Drive to Oliver Avenue; and (4) along the entire Burlington Northern & Santa Fe railroad right-of-way until Moreno Boulevard.

The proposed project also requires a federal permit from the United States Army Corps of Engineers and therefore requires a consistency certification pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act. For the portion of the project that lies in State waters, the consistency certification is redundant; the coastal development permit serves as a consistency certification. On October 5, 2000, the applicant submitted a consistency certification, as amended on November 27, 2000, to the Coastal Commission certifying that the proposed activity complies with California's approved coastal management program ("CCMP") and will be conducted in a manner consistent with the CCMP.

This staff report is a combined coastal development permit and consistency certification.

Major Coastal Act issues associated with this project include potential impacts to marine resources and commercial fishing. Please see Table 1 for a summary of potential impacts and proposed mitigation measures. The applicant has committed in its consistency certification to implement the proposed mitigation measures (conditions of permit approval) for the portion of the cable project constructed in federal waters.

Commission staff recommends approval, as conditioned, of the proposed project components that lie within the Coastal Commission's permit jurisdiction and concurrence with the applicant's consistency certification.

Table 1. Issue Summary: Potential Impacts and Proposed Conditions and Measures

| Significant Issue Area | Proposed Special Conditions and Mitigation Measures |
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| Marine Resources: Marine Mammals | <p><u>Issue:</u> Whales may become entangled with project cables during feeding activities if cables are insufficiently buried or exposed on the seafloor. Abandoned trawl nets may entangle and drown marine mammals or other marine wildlife.</p> <p><u>Mitigation Measures:</u></p> <p>Special Condition 4 requires the cable to be buried to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0-meter burial depth cannot be achieved, the applicant shall bury the cable to the maximum depth feasible.</p> <p>Special Condition 5 requires that within 30 days of cable installation, the applicant shall submit to the Executive Director the as-built plans, including the depth of burial, of the cable. Cable locations shall be obtained by an acoustic navigation system linked to a surface differential global positioning system. The transponder for the acoustical navigational system shall be mounted on the equipment used for cable burial.</p> <p>Special Condition 6 requires that every 18 to 24 months for the life of project, the applicant shall survey the cable route from the mean high tide line to the seaward limit of the territorial waters of the State of California to verify that the cable has remained buried consistent with the as-built cable burial plan required by Special Condition 5. The survey shall be conducted with a remotely operated vehicle (“ROV”) equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, the applicant shall submit to the Executive Director a report describing the results of the survey. If the survey shows that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan required by Special Condition 5, the applicant shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.</p> <p>Special Condition 7 requires that within 90 days of taking either the cable out of service or after the expiration or sooner termination of the applicant’s State Lands Commission lease(s) or permit(s), the applicant shall apply for an amendment to this permit to remove the cable from the seafloor. Cable removal shall occur from the mean high tide line to the seaward limit of the territorial waters of the State of California.</p> |

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| Marine Resources: Marine Mammals (cont.) | <p>Special Condition 9 requires that a trained marine mammal observer, to be approved by the Executive Director in consultation with the National Marine Fisheries Service, shall be on the cable lay or support vessel to monitor marine mammals that approach the project work area. In the event that, in the opinion of the observer, project operations have the potential to threaten the health or safety of marine mammals or have the potential to take, as defined by the Endangered Species Act, a marine mammal, the observer shall have the authority to terminate all project activities until the observer determines there is no longer a threat.</p> <p>Special Condition 10 requires that within 30 days of completion of cable installation activities, the applicant shall submit to the Executive Director a copy of the marine mammal monitoring report required by the State Lands Commission lease.</p> <p>Special Condition 11 requires that in the event that trawlers snag and cut their trawl gear due to entanglement with either cable, or that any other type of entanglement occurs, the applicant shall use all feasible measures to retrieve the entangled object as soon as possible but no later than six weeks after discovering or receiving notice of the incident. The applicant shall provide notice to the Executive Director within seven days of repair or object retrieval efforts. The notice shall include a full description of the nature of the entanglement, as well as any recorded cable failures.</p> |
| Marine Resources: Hard Bottom | <p>Issue: Because sensitive, rare, and slow-growing epifaunal species reside on rocky substrates in the project area, disturbance to these species from cable laying and repair activities can permanently destroy them.</p> <p>Mitigation Measures:</p> <p>Special Condition 12 requires that within 90 days of project completion, a video survey (displaying real-time position and water depth of the ROV) of the segments of the seafloor along the construction corridor which were identified as consisting of rocky substrate prior to or during the laying of the cable shall be completed by a consultant approved by the Executive Director. Still-photographs of representative habitat shall be taken in any areas of rocky substrate traversed by the cable. The survey shall quantify the extent of exposed rocky substrate, including type and relief, if any, impacted by offshore operations out to the seaward limit of the territorial waters of the State of California. Within 45 days of completing the survey, the applicant shall submit to the Executive Director a written report describing the results of the survey to derive net project impacts to rocky substrate. The survey report shall identify the location and quantify the extent of any disturbance to hard bottom caused by project operations.</p> <p>Special Condition 13 requires the applicant to compensate for all project-related impacts to hard bottom habitat through payment of a compensatory hard bottom mitigation fee (\$27.31/square foot) to be used to construct a new artificial reef or augment an existing artificial reef in State waters within the Southern California Bight. The construction of a new artificial reef, or augmentation of an existing reef, shall be carried out pursuant to a Memorandum of Agreement by and between the Coastal Commission, the California Department of Fish and Game and the United Anglers of Southern California (Exhibit 6).</p> |

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| Marine Resources: Water Quality | <p>Issue: Subsurface boring and installation of conduit can result in the release of bentonite, a drilling lubricant, to the marine environment.</p> <p>Mitigation Measures: Special Condition 15 requires that the applicant submit for Executive Director approval prior to permit issuance a project-specific drilling fluid spill contingency plan that includes (a) an estimate of a reasonable worst case release of drilling fluid into marine waters caused by project operations; (b) a clear protocol for monitoring drilling, including criterion for identifying a frac-out (<i>i.e.</i>, an unanticipated bentonite release due to boring operations) as it occurs; (c) a response and clean-up plan in the event of a marine spill; (d) a list of all clean-up equipment that will be maintained on-site; and (e) the specific designation of the onsite person who will have responsibility for implementing the plan.</p> |
| Commercial Fishing | <p>Issue: Trawlers may snag their gear on project cables that are insufficiently buried or exposed and thus experience significant economic losses from abandoned gear and lost fishing time.</p> <p>Mitigation Measures: The Commission is requiring Special Conditions 4, 5, 6, and 7, as defined above under the Marine Resources issue area.</p> |
| Public Access and Recreation | <p>Issue: Onshore-boring activities at Pacific Beach in San Diego will remove temporarily 18 public parking spaces.</p> <p>Mitigation Measures: During boring activities the applicant will rent a nearby private lot to provide 18 alternative parking spaces. The Commission is also requiring in Special Condition 18 that project construction be prohibited at the Pacific Beach Drive parking lot between December 23-25, December 31-January 1, and Memorial Day weekend (beginning on the preceding Friday) through Labor Day so as to avoid all peak beach use periods.</p> |

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1.0 STAFF RECOMMENDATION

1.1 Approval with Conditions

The staff recommends conditional approval of Coastal Development Permit Application No. E-00-008.

Motion:

I move that the Commission approve Coastal Development Permit Application No. E-00-008 subject to the conditions set forth in the staff recommendation dated November 16, 2000.

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in conditional approval of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

The Commission hereby approves coastal development permit E-00-008 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

1.2 Concurrence

The staff recommends the Coastal Commission adopt the following resolution:

Motion:

I move that the Commission concur with consistency certification CC-110-00 that the project described therein is consistent with the enforceable policies of the California Coastal Management Program (CCMP).

Staff recommends a **YES** vote on the motion. Passage of this motion will result in a concurrence in the certification and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

Resolution:

The Commission hereby concurs in the consistency certification by Global West Network on the grounds that the project described therein is consistent with the enforceable policies of the CCMP.

2.0 STANDARD CONDITIONS Appendix A.**3.0 SPECIAL CONDITIONS**

This permit is granted subject to the following special conditions:

General Conditions

1. **Scope of Project Approval.** This permit authorizes those project activities specifically described in the applicant's August 18, 2000 coastal development permit application, as amended, except as otherwise modified by the conditions of this permit. Any modifications of or additions to the project, as described in the referenced documentation, shall require an amendment to this permit.
2. **Indemnification.** In addition to any immunities provided for by law, in exercising this permit, the applicant agrees to hold harmless and indemnify the Coastal Commission, its officers, employees, agents, successors and assigns from any claims, demands, costs, expenses and liabilities for any damage to public or private properties or personal injury that may result directly or indirectly from the project.
3. **Liability for Costs and Attorneys Fees.** The applicant shall reimburse the Coastal Commission in full for all costs and attorneys fees --- including (1) those charged by the Office of the Attorney General, and (2) any court costs and attorneys fees that the Coastal Commission may be required by a court to pay --- that the Coastal Commission incurs in connection with the defense of any action brought against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit, the interpretation and/or enforcement of permit conditions, or any other matter related to this permit.

Mitigation Measures

4. **Cable Burial Depth.** The cable shall be buried to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0-meter burial depth cannot be achieved, the applicant shall bury the cable to the maximum depth feasible.
5. **Cable Installation Documentation.** Within 30 days of cable installation, the applicant shall submit to the Executive Director of the Coastal Commission (hereinafter "Executive Director") the as-built plans, including the depth of burial, of the cable. Cable locations shall be obtained by an acoustic navigation system linked to a surface differential global

positioning system. The transponder for the acoustical navigational system shall be mounted on the equipment used for cable burial.

6. **Cable Surveying.** Every 18 to 24 months for the life of project, the applicant shall survey the portion of the cable route from the mean high tide line to the seaward limit of the territorial waters of the State of California to verify that the cables have remained buried consistent with the as-built cable burial plan required by Special Condition 5. The survey shall be conducted with a remotely operated vehicle (“ROV”) equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, the applicant shall submit to the Executive Director a report describing the results of the survey. If the survey shows that a segment(s) of the cable is no longer buried consistent with the as-built cable burial plan required by Special Condition 5, the applicant shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.
7. **Cable Removal.** Within 90 days of taking either the cable out of service or after the expiration or sooner termination of the applicant’s State Lands Commission lease(s) or permit(s), the applicant shall apply for an amendment to this permit to remove the cable from the seafloor. Cable removal shall occur from the mean high tide line to the seaward limit of the territorial waters of the State of California.
8. **Marine Discharge.** There shall be no marine discharge of sewage or bilge or ballast water from vessels either installing or repairing the cable.
9. **Marine Mammals.** A trained marine mammal observer, to be approved by the Executive Director in consultation with the National Marine Fisheries Service, shall be on the cable lay or support vessel to monitor marine mammals that approach the project work area. In the event that, in the opinion of the observer, project operations have the potential to threaten the health or safety of marine mammals or have the potential to take, as defined by the Endangered Species Act, a marine mammal, the observer shall have the authority to terminate all project activities until the observer determines there is no longer a threat.
10. **Marine Mammal Report.** Within 30 days of completion of cable installation activities, the applicant shall submit to the Executive Director a copy of the marine mammal monitoring report required by condition 17 of the applicant’s State Lands Commission permit.
11. **Cable Entanglement.** In the event that trawlers snag and cut their trawl gear due to entanglement with the cable, or that any other type of entanglement occurs, the applicant shall use all feasible measures to retrieve the entangled object as soon as possible but no later than six weeks after discovering or receiving notice of the incident. The applicant shall provide notice to the Executive Director within seven days of cable repair, if necessary, or object retrieval efforts. The notice shall include a full description of the nature of the entanglement, repair efforts, as well as any recorded cable failures.

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12. **Hard Bottom Seafloor Survey.** Within 90 days of project completion, a video survey (displaying real-time position and water depth of the ROV) of the segments of the seafloor along the construction corridor which were identified as consisting of rocky substrate prior to or during the laying of the cable shall be completed by a consultant approved by the Executive Director. Still-photographs of representative habitat shall be taken in any areas of rocky substrate traversed by the cable. The survey shall quantify the extent of exposed rocky substrate, including type and relief, if any, impacted by offshore operations out to the seaward limit of the territorial waters of the State of California. Within 45 days of completing the survey, the applicant shall submit to the Executive Director a written report describing the results of the survey to derive net project impacts to rocky substrate. The survey report shall identify the location and quantify the extent of any disturbance to hard bottom caused by project operations.
13. **Hard Bottom Mitigation Fund.** The applicant shall compensate for all project-related impacts to hard bottom habitat through payment of a compensatory hard bottom mitigation fee to be used to construct a new artificial reef or augment an existing artificial reef in State waters within the Southern California Bight. The construction of a new artificial reef, or augmentation of an existing reef, shall be carried out pursuant to a Memorandum of Agreement by and between the California Coastal Commission, the California Department of Fish and Game and the United Anglers of Southern California (Exhibit 6).

The amount of the hard bottom mitigation fee shall be calculated by multiplying the total square footage of impacted hard bottom (as determined in the survey conducted under Special Condition 12) by a compensation rate of \$27.31 per square foot. The fee shall be paid to the United Anglers of Southern California within 30 calendar days of the results of the hard bottom survey required by Special Condition 12.

14. **Oil Spill Contingency Plan.** Prior to commencement of cable laying operations, the applicant shall submit to the Executive Director: (a) evidence that the California Office of Oil Spill Prevention and Response (“OSPR”) has approved the non-tank oil spill contingency plan (“OSCP”) for the applicant’s cable laying vessels, pursuant to the non-tank vessel OSCP regulations found at 14 CCR Sections 825.03 – 827.02 and (b) a copy of the project-specific geographic oil spill plan supplement for the applicant’s cable laying operation areas in State waters offshore Morro Bay, Santa Barbara, Manhattan Beach, and San Diego that pursuant to information requirements of 14 CCR Sections 827.02 (g – i), the applicant will submit to the OSPR as part of its OSCP.
15. **Drilling Fluid Spill Contingency Plan.** Prior to issuance of this permit, the applicant shall submit for Executive Director approval a project-specific horizontal directional drilling (“HDD”) fluid monitoring and spill contingency plan that includes: (a) an estimate of a reasonable worst case release of drilling fluids into marine waters caused by project operations; (b) a clear protocol for monitoring and minimizing the use of drilling fluids during HDD operations, including criterion for identifying an unanticipated drilling fluid release and proposed fracture sealants; (c) a response and clean-up plan in the event of a spill or accidental discharge of drilling fluids; (d) a list of all clean-up equipment that will

be maintained on-site; and (e) the designation of the onsite person who will have responsibility for implementing the plan.

16. **Fishing Agreement Notification.** Prior to issuance of this permit, the applicant shall use diligent good faith efforts to notify provide written notification of the fishing agreement to individual commercial trawlers who are not members of the Southern California Trawlers Association but are licensed by the California Department of Fish and Game to trawl in areas traversed by the cable route. The notification shall: (a) describe the proposed project, including a map and exact coordinates of the proposed route, (b) contain a copy of the "Agreement Between Cable Companies and Fishermen," (c) explain how interested trawlers may become parties to said agreement, and (d) provide the applicant's contact information. The applicant shall allow trawlers 30 days, from the date of the notification, to respond. The Executive Director shall be provided a copy of the notice and a list of trawlers contacted.
17. **Fishing Agreement.** Prior to issuance of this permit, the applicant shall submit to the Executive Director a fully executed "Agreement Between Cable Companies and Fishermen" entered into between the applicant, the Southern California Trawlers Association, and individual commercial fishermen notified pursuant to the requirements of Special Condition 16 that choose to be party to said agreement.
18. **Construction Prohibition.** Project construction is prohibited at the Pacific Beach Drive parking lot in the City of San Diego between December 23-25, December 31-January 1, and Memorial Day weekend (beginning on the preceding Friday) through Labor Day.
19. **San Diego Construction Plans.** Prior to cable pulling operations in San Diego, the applicant shall submit to the Executive Director construction plans for a determination of consistency with the applicant's project description, as amended, submitted as part of its coastal development permit application.
20. **Air Emissions Offset.** Prior to issuance of this permit, the applicant shall submit to the Executive Director evidence that the South Coast Air Quality Management District has approved the applicant's proposal to offset emissions.
21. **State Lands Commission Lease Amendment Approval.** Prior to issuance of this permit, the applicant shall submit to the Executive Director evidence that the State Lands Commission has approved the City of Morro Bay North Point Natural Area cable landing in lieu of the Chevron Estero Marine Terminal cable landing.
22. **Minimum Bore Depth.** The bore depth at all landing sites shall be a minimum of 100 feet below the seabed with the exception of the initial bore entry and exit points. The Executive Director may approve a shallower bore depth if, during the drilling process, the applicant submits evidence that there are more favorable geologic conditions (*i.e.*, less possibility of a frac-out) at depths less than 100 feet.

4.0 FINDINGS AND DECLARATIONS

4.1 Project Purpose

Global West Network, Inc. (hereinafter “applicant”) proposes to construct an offshore, high capacity telecommunications system that would directly link cities along the central and southern California coast with four onshore landings in Morro Bay, Santa Barbara, Manhattan Beach, and San Diego. According to the applicant, the project would offer digital services including voice, data, video, cable television, and internet traffic along a diverse route distinct from the existing onshore U.S. Highway 101 and Interstate-5 telecommunication corridors, thus providing protection or back-up for telecommunication infrastructure along those terrestrial routes that are reportedly subject to a higher failure rate. In addition to increasing the telecommunications capacity or bandwidth between cities along the coast, the applicant asserts that the project would allow for future increases in capacity up to 4 terabits without the need to disturb existing infrastructure or deploy new cables. By securing redundant terrestrial capacity through existing terrestrial carriers, the proposed project would form a “self-healing ring,” whereby digital traffic encountering a fault at one location of the network would be routed in the opposite direction to its ultimate destination.

4.1 Project Description

The applicant proposes to construct and operate one fiber optic cable in an offshore festoon network along the California coast from Morro Bay to San Diego with onshore landings in the Cities of Morro Bay (Exhibit 2, North Point Landing Area), Santa Barbara (Exhibit 3, Leadbetter Beach parking lot), Manhattan Beach (Exhibit 4, Bayview Terrace Park), and San Diego (Exhibit 5, Pacific Beach Drive parking lot). At each landing, the cable will be brought onshore through a conduit horizontally drilled from an onshore location that will surface generally 2000 to 4600 feet offshore. Onshore, the cable is routed to a telecommunication center either by trenching or using existing conduit and utility poles. The center will distribute the traffic through existing telephone networks.

Except for locations within the City of San Diego, all onshore cable-laying activities in the coastal zone lie within the local government’s certified Local Coastal Program (“LCP”) coastal permit jurisdiction. Within the City of San Diego, the Commission’s original permit jurisdiction includes approximately 2.5 miles of cable installation in existing conduit (owned by Pacific Bell). The route includes: (1) Pacific Beach Dr. from cable landing to Bayard Street; (2) Pacific Beach Drive from West Briarfield Circle to Dawes Street; (3) Dawes Street from Pacific Beach Drive to Oliver Avenue; and (4) along the entire Burlington Northern & Santa Fe railroad right-of-way until Moreno Boulevard.

Generally, the onshore cable will be installed by pulling the cable from manhole to manhole (every 587 feet, on average). One end of the cable will be attached to a rope already installed in the conduit. From another manhole, a truck with a small winch pulls the rope until it reaches the manhole. This operation is repeated along the entire length of the route. Approximately 29,052 feet of the existing conduit lie underneath sidewalk. Roughly 3 miles of the cable can be installed per day and the installation in the Commission’s jurisdiction is expected to last 7 days

(project operations throughout the city have been allotted 21 days). The proposed onshore or land cable is a standard terrestrial fiber optic cable with a diameter of 0.42 inch. A plastic (polyethylene) tube surrounds the fiber optic core to prevent moisture from entering.

Offshore, the applicant proposes to bury approximately 93% of the total cable route with a hydroplow or remotely operated vehicle (“ROV”) to a target depth of 1.0-meter (approximately 3.3 feet), where feasible. In areas of rocky substrate and canyon crossings where burial is not possible, additional cable slack will be introduced to allow the cable to follow the contours of the seafloor and thus minimize cable suspensions. As a festoon or loop network, the cable will traverse state and federal waters a total of approximately 358 miles (573 km). Approximately 90% of the total route or 321 miles (514 km) lie within federal waters with a maximum offshore distance of 11.8 nautical miles; 10% of the route or 36.8 miles exists in state waters.

The proposed offshore cable route will cross cables installed by the U.S. Navy in several locations and several trans-Pacific cables. These cables include HAW-2, HAW-3, HAW-5, TPC-5, China-U.S. cables (E1 and S7), Japan-U.S. cable (S9), PC-1, PAC, and Southern Cross SC-D. The proposed cable will cross these cables at 90-degree angles to ensure that future recovery operations will not damage the crossed cables. At the crossing, a 200-meter long protective sheath will be placed over the proposed cable and the entire section will be buried to the target depth by water jetting using a ROV. No pipelines will be crossed by the proposed project.

The proposed project will require the use of a cable laying vessel, the Subsea Viking or similar vessel for the nearshore and offshore cable laying. Additionally, a diver support vessel (approximately 50 feet long), a pre-lay inspection vessel (150-200 feet long), and a post-lay inspection and burial vessel (150-200 feet) to support ROV operations will be used. Anchors will only be required for the support vessels. A hydroplow or cable burial machine and ROV with a jetter will be used to bury the cable.

4.1.1 Offshore Fiber Optic Cable Installation Procedures

There are six phases of the typical offshore cable installation process: (1) route surveys; (2) horizontal directional drilling; (3) conduit exposure and cleaning; (4) pre-lay grapnel runs, in which the route is cleared of debris; (5) cable burying; (6) cable laying on rocky or other substrate; and (7) post-lay cable burial.

Unlike a transoceanic cable, the proposed cable is roughly 0.9 inches in diameter (single-armored), non-electrically powered, and approximately three times more flexible. Less than five percent of the total cable used will be double-armored, measuring 1.2 inches in diameter. The cable core has 24 fibers, with each fiber having the capacity to carry at least 16 different wavelengths of light. The capacity of the cable is equivalent to more than 10 million telephone conversations. The outer layers of the cable are made up of asphalt and polypropylene yarn.

Route Surveys

A “desktop” study of the proposed sea route was prepared in 1997-98 to identify areas that the route should avoid. Examples of areas identified for avoidance include the following: rocky substrates, marine sanctuaries, kelp beds, pinniped haul-out areas, areas of cultural and historic importance, pipeline and cables, major shipping lanes, and areas subject to sediment transport. A marine survey, consisting of high-resolution, side-scan sonar, sediment core samples, and sub-bottom profiling, was conducted in May 1999 with a more focused survey undertaken in July 1999. Based on this information, the applicant contends that the selected route avoids rocky substrates to the maximum extent feasible, and provides for 93% burial of the route; high relief rocky substrates are avoided completely.

Horizontal Directional Drilling

The applicant proposes to install two cable conduits (4-inch diameter steel pipe) by horizontal directional drilling (HDD) at the Morro Bay, Santa Barbara, and Manhattan Beach landings and one conduit at the San Diego landing. Working south to north, two drill rigs will be available to conduct HDD operations at two proposed landings simultaneously or within a similar time frame. The conduits will be directionally drilled from shore beyond the surf zone at a minimum depth of approximately 30 meters below the ocean floor. The conduits will surface from about 2000 to 4600 feet offshore in roughly 30-60 feet of water.

Drilling will be performed using a mobile drill rig which includes the drill and a mud (drilling fluid) pump system. The conduit will advance in 30-foot sections through the bore hole as it is created. Surveys will be taken in 15 and 30-foot increments to verify the drill position and path. In San Diego, approximately 10,310 square feet of the Pacific Beach Drive parking lot is proposed as a staging area.

HDD-related operations offshore entail the stationing of a support vessel to serve as a diver support platform. Divers are deployed to retrieve the drill heads, excavate around the conduit exit point and install one-way valves at the pipe ends. Approximately one to two cubic yards of floor sediment would be jetted to expose each of the pipe ends.

The duration of the HDD operations is expected to take approximately 25 days at those sites requiring two conduits (Morro Bay, Santa Barbara, and Manhattan Beach) and approximately 21 days at San Diego (one conduit). Drilling will be conducted during daylight hours only. In San Diego, drilling will occur from 8:00 a.m. to 5:00 p.m. during weekdays only.

Conduit Exposure and Cleaning

Prior to installation or pulling of the cable, the conduit portals will be exposed on the seafloor by divers with a jetting tool. Approximately one to two cubic yards of sediments would be jetted to expose the conduit ends. Once the conduit ends are exposed, the divers will float the cable to the exit point and thread the cable into the conduit by attaching it to a rope. A winch onshore will pull the cable through the conduit to the manhole. During this operation, the cable ship will establish a position approximately 500-1000 feet seaward of the conduit exit points. This

operation will take approximately two days per landing.

Pre-Lay Grapnel Run

In order to clear the routes of obstacles previously undetected by sidescan sonar (*e.g.*, discarded trawl gear) that a cable plow or ROV may encounter, a grapnel (an anchor-like hook) will be pulled along the cable route just before cable installation. The grapnel, to be pulled by a support vessel, will cause an area of disturbance approximately twelve inches deep by eight inches wide. If the grapnel hooks debris, the towing will cease and the grapnel and associated debris will be retrieved and stowed on the vessel for proper disposal onshore. Grapnel operations will not take place over rocky substrates.

Cable Burial

Cable burial operations will occur sequentially from San Diego to Morro Bay. During cable installation, the cable vessel will station roughly 500-1,000 feet seaward of the conduit exit point. By using dynamically-positioning capabilities, the vessel will not require any anchoring but instead will maintain position through the use of its computer-controlled thrusters, rudders, and propellers. Support vessels, however, will require a 2-3 point mooring with an 8-foot radius using 50-100 lbs. Danforth anchors.

Upon completion of the HDD operations, divers float the cable deployed from the cable vessel towards the conduit exit point and thread it into the respective conduit. From the conduit exit point to the location of the cable vessel, the cable will be buried to the target depth of 1.0 meter by divers using a sediment-jetting tool. The cable vessel, towing a cable plow (the Sea Dragon or similar plow), will then commence burial operations. Subsequent landings up the coast will proceed as described above. At the Santa Barbara and Manhattan Beach landings, the cable (incoming) will be threaded into one conduit and spliced with a terrestrial cable. An outgoing cable, en route to the northerly landings, will then be threaded into the second conduit and spliced with a terrestrial cable (each terrestrial route has a diverse route to the same telecommunications facility).

The cable ship can conduct cable plowing operations at a speed in the range of 0.5 to 1.5 knots depending on the substrate type. Total offshore cable installation is expected to take approximately 53 days. Estimated installation time includes: San Diego to Manhattan Beach (15 days); Manhattan Beach to Santa Barbara (18 days) and; Santa Barbara to Morro Bay (20 days). Thus, each cable segment would take roughly 4 to 6 days, corresponding to a total of 12 to 18 days for the entire offshore burial operation. Nearshore burial operations will take place during daylight hours. Offshore burial operations will take place on a 24-hour basis.

Hand-Jetting

From the conduit exit point (2000-4600 feet offshore) to the location of the cable vessel (500-1000 feet seaward of the conduit exit), the cable will be buried by divers equipped with hand jets, consisting of pressurized water emitted from a nozzle. The jets use seawater under pressure to displace seafloor sediments creating a narrow trench beneath the cable. The cable will then

drop into the trench. The disturbed sediments will naturally settle and fill in the excavation to the original grade.

Hydroplow

The applicant proposes to bury approximately 93% of the cable route to a target burial depth of 1.0 meter by a Sea Dragon or similar hydroplow (plow). The plow is designed with a blade that digs a trench roughly 1.0 meter deep and 4 inches wide. The cable is fed through the framework of the plow, just behind the blade, and is deposited into the trench. The trench collapses in upon itself almost immediately thereafter due to the ambient hydrostatic pressure. In more resistant substrate (such as gravel and clay), the tow tension is carefully monitored. If the tension becomes too high, the plow is raised to reduce the tension. In these areas, cable burial may be less than one meter. The plow will be lifted roughly 10 meters above areas of rocky substrate.

Cable Burial Method- Sediment Jetting by ROV/Post-Lay Burial

Where successful burial in soft sediments has not been achieved during installation operations, an ROV will bury or re-bury those segments to a target depth of 1.0 meter. A real-time video recorder installed on the plow will allow the applicant to monitor burial operations and note segments that need to be re-buried.

To bury cable, the ROV (with 300-400 horsepower) will use two water-jetting tools, which discharges seawater at a high volume and low pressure, and a depressor. The ROV straddles the cable and with the jetting tool liquefies the seabed below the cable to a depth of 1.0 meter, generally with two passes, depending on the sediment type, causing the cable to sink into the resultant trench. The depressor takes the form of an arm at the rear of the ROV that presses down the cable into the sediment that has been liquefied. Multiple passes over the cable can achieve deeper burial depths. The sediments in the trench re-consolidate or re-densify over time, depending on the nature of the material. In most cases, burial by ROV does not leave an open trench.

Cable Laying on Rocky and Other Substrate

For those areas determined by the sea route survey to be unsuitable for burial (*e.g.*, rocky substrates), the cable will be laid on the surface. When rocky substrate is encountered, the plow is lifted above the surface while the cable continues to be fed through the rear frame of the plow. A computerized deployment system determines the amount of slack necessary for the cable to lay on the seafloor. This allows the cable to settle onto the bottom under near zero tension and minimizes the possibility of suspensions. The applicant estimates that the cable will be laid on approximately 35.8 km (21.5 miles) of low-relief (less than 1.0 meter) rocky substrates. Within state waters and federal waters, a total of approximately 4.2 km and 31.6 km, respectively, of low-relief rocky substrate will be crossed.

Offshore the Manhattan Beach landing in the Santa Monica Bay, the cable will be laid on the Hyperion sludge field for a distance of approximately 15 km. Use of the sludge field outfall was terminated in 1987.

4.1.2 Cable Maintenance and Repair

The proposed project also includes repair and maintenance of damaged cable, if necessary. The applicant does not anticipate that any cable maintenance and repair will be required over the life of the cables (25 years) since they are designed to operate maintenance-free. The applicant also maintains that the proposed route was designed to avoid steep slopes where sediment slumping could potentially cause a cable fault. Nonetheless, if the cables were damaged, that portion of the cable length would be lifted from the seafloor to the surface for repair.

The position of a cable fault can be determined from shore using optical measurement equipment that sends optical pulses down the cable. If a buried cable has experienced a fault and is unburied, it can be retrieved using a grapnel, ROV, or divers, depending on water depth. Typically, in soft substrates a grapnel is deployed about two water depths to one side of the cable and then pulled perpendicular toward the cable. After the cable is secured, the grapnel will cut the cable, secure one end, and bring it to the surface for repair. A ROV will then re-bury the cable to the target depth of 1.0 meter.

If the cable has remained buried or if adjacent cables are too close, an ROV with a jetting tool or divers can be used to unbury the cable, depending on water depth. Near hard bottom areas, either an ROV or a grapnel dragged in adjacent soft bottom areas is used. Once found, the damaged cable section would be cut on the seafloor and the two ends will be spliced together. Depending upon the amount of slack in the cable, it may be necessary to add spare cable. After a series of tests and inspections, the repaired section is lowered to the seafloor. A ROV jetter will then re-bury the new cable section to the target depth of 1.0 meter.

In areas of existing poor water quality, such as the Hyperion sludge field near the Manhattan Beach landing, the damaged cable may be left in place to avoid additional water quality impacts. No attempts will be made to retrieve damaged cable sections within the sludge field. A new section of cable would be spliced in and re-layed on the seafloor.

4.1.3 Cable Abandonment

The applicant estimates the operational life of the cable to be about 25 years. When the cable is taken out of service, the applicant proposes to remove the cable or abandon the cable in place in accordance with applicable agency requirements. It is the policy of the State Lands Commission that the cable would be removed unless it can be demonstrated at the end of the cable's useful life that the cable causes no harm and that removing the cable would cause significant impacts. Removal operations are not proposed in this application.

4.2 Prior Fiber Optic Cable Projects Approved by Coastal Commission

The following fiber optic cable projects have been approved by the Coastal Commission:

- In January 1992, the Coastal Commission approved the installation, operation, and maintenance of one cable, HAW-5, and four conduits (#4-91-61) offshore of Montana de Oro State Park.

- In September 1994, the Coastal Commission approved two additional cables, TPC5-T1 and TPC5-G (#4-91-61-A1) offshore of Montana de Oro State Park.
- In April 2000, the Coastal Commission approved the installation of two fiber optic cables and five offshore conduits by MFS Globenet and MCI WorldCom (E-99-011) at Montana de Oro State Park.
- In May and June 2000, the Coastal Commission approved the installation of two fiber optic cables by AT&T (E-98-029) off of Montana de Oro State Park.
- In June 2000, the Coastal Commission approved the installation of three fiber optic cables and three conduits by PC Landing Corporation and PAC Landing Corporation at Grove Beach.
- In September 2000, the Coastal Commission approved the installation of one fiber optic cable and five conduits at Manchester State Beach, and one cable off of Montana de Oro State Park by AT&T Corporation.

Through its federal consistency authority, the Coastal Commission has also concurred with consistency certifications, consistency determinations, and negative determinations for a number of submarine fiber optic cable-related projects by, for example, the Navy, Coast Guard, Federal Aviation Administration, MCI WorldCom, and AT&T.

4.3 The Coastal Commission's Permit and Federal Consistency Jurisdiction

The Coastal Commission retains coastal permit jurisdiction over project areas on public trust lands, tidelands, and submerged lands from the mean high tide line to three nautical miles offshore. Therefore, that portion of the project that involves the burial of cable within State waters (*i.e.*, seaward of the mean high tide line to three nautical miles offshore) requires issuance of a permit from the Coastal Commission and is the subject of coastal development permit application E-00-008.

The following portions of the proposed onshore route in the City of San Diego also lie within the Coastal Commission's retained coastal permit jurisdiction: (1) Pacific Beach Drive from offshore to Bayard Street; (2) Pacific Beach Drive from West Briarfield Circle to Dawes Street; (3) Dawes Street from Pacific Beach Drive to Oliver Avenue; and (4) along the entire Burlington Northern & Santa Fe railroad right-of-way until Moreno Boulevard.

The offshore component of the project also requires a federal permit from the United States Army Corps of Engineers ("Corps") and therefore requires a consistency certification pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act. For the portion of the project that lies in State waters, the consistency certification is redundant; the coastal development permit serves as a consistency certification. For the portion of the project that lies outside the coastal zone in federal waters, the applicant has submitted a consistency certification (dated October 5, 2000, as amended on November 27, 2000) to the Coastal Commission. The applicant has certified that the proposed activity complies with California's approved coastal management program ("CCMP") and will be conducted in a manner consistent with the CCMP. This staff report is a combined coastal development permit and consistency certification.

4.4 Related Approvals

4.4.1 California State Lands Commission (“SLC”)

On June 27, 2000, the California State Lands Commission (“SLC”) (1) certified a Final Environmental Impact Report (SCH No. 99021067/EIR No. 692), and (2) approved a Permit for Telephone Line Right of Way (No. PRC 8168.0). The approved project includes one fiber optic cable and appurtenances and five steel conduits at seven onshore landings including San Francisco, Manresa State Beach (Santa Cruz County), Carmel Highlands (Monterey County), Morro Bay, Santa Barbara, Manhattan Beach, and San Diego.

The SLC also determined that because the proposed project will be operated as a public utility for the purpose of providing telephone service to the public on a non-discriminatory basis, the applicant is entitled to a rent-free right-of-way permit pursuant to Public Utilities Code §7901 on state tidelands, submerged lands, and waters.

In November 2000, the applicant filed an amendment application with the SLC to change the San Luis Obispo County landing from the Chevron Estero Marine Terminal to the North Point Natural Area in the City of Morro Bay. This landing was analyzed in the EIR. SLC staff has indicated that the application will likely be reported to the SLC via the consent calendar at a January 2001 SLC meeting. Pursuant to section 13053 of the Coastal Commission’s regulations the Executive Director has waived as a coastal development permit application filing requirement the SLC’s approval of the lease amendment request. **Special Condition 21** of this permit requires the applicant, prior to issuance of this permit, to submit to the Executive Director evidence that the State Lands Commission has approved the City of Morro Bay North Point Natural Area cable landing in lieu of the Chevron Estero Marine Terminal cable landing.

4.4.2 State Water Resources Control Board (“SWRCB”)

Regional Water Quality Control Boards regulate waste discharges into receiving waters in the project area. Previously, Regional Boards have issued waivers for fiber optic projects within their jurisdictions. However, the State Water Resources Control Board has processed a Section 401 Water Quality Certification for the proposed project because the project passes through the jurisdiction of two regions. The SWRCB issued a 401 Water Quality Certification for the proposed project on August 11, 2000.

4.4.3 U.S. Army Corps of Engineers (“Corps”)

The U.S. Army Corps of Engineers (“Corps”) has regulatory authority over the proposed project under section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 1344) and section 4(f) of the Outer Continental Shelf Lands Act (“OCSLA”), as amended. Section 10 of the Rivers and Harbors Act regulates the diking, filling and placement of structures in navigable waterways. Section 4(f) of the OCSLA requires a permit for the construction of artificial islands, installations, and other devices on the seabed to the seaward limit of the outer continental shelf. According to the Corps, laying of a cable on the seafloor beyond the three-mile limit is considered an “installation” and “other device” on the seabed.

The Corps has indicated to staff that the proposed project qualifies for a Nationwide Permit 12, for discharges of dredged or fill material associated with excavation, backfill or bedding for utility lines. The Corps has determined that the proposed project is not likely to adversely affect federal listed species (*e.g.*, marine mammals) or their designated critical habitats, including Essential Fish Habitat. As required by the federal Endangered Species Act, the Corps consulted with the U.S. Fish and Wildlife Service and National Marine Fisheries Service. Both agencies concurred in the Corps' determination.

Pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act, any applicant for a required federal permit to conduct an activity affecting any land or water use or natural resource in the coastal zone must obtain the Coastal Commission's concurrence in a certification to the permitting agency that the project will be conducted consistent with California's approved coastal management program.

4.4.4 Air Pollution Control Districts (APCD)—San Luis Obispo County, Santa Barbara County, South Coast Air Quality Management District, and San Diego County

The APCDs listed above are responsible for implementing federal and state air quality rules and regulations in all project areas. The APCDs have all indicated that no individual permits will be required for the proposed project. However, because project operations onshore and offshore will cause significant exceedances of California Environmental Quality Act daily thresholds for nitrous oxide (NO_x) at the Morro Bay and Manhattan Beach project areas (including onshore areas outside the Coastal Commission's jurisdiction), the applicant will be required to mitigate these air quality impacts.

The applicant and the San Luis Obispo County APCD have come to a mitigation agreement whereby the applicant will offset 2.86 tons of NO_x emissions through payment of \$10,000 (at \$3,500/ton NO_x) into a Marine Engine (Replacement) Fund for the first 4 weeks of drilling operations. The applicant will pay \$1,000 for each week that drilling operations extend beyond the 4 week period. The monies will be used exclusively to replace or retrofit two-stroke marine diesel engines operating off of San Luis Obispo County.

At Manhattan Beach, the applicant has tentatively reached an agreement with the South Coast Air Quality Management District to offset 2078 pounds of NO_x emissions by paying for the differential cost of replacing two diesel-powered yard hostlers at the Port of Los Angeles with two yard hostlers powered by propane. The emissions reduction achieved by the replacement will amount to 3,580 pounds per year or 42,960 pounds over the 12-year life of the hostlers.

4.5 Coastal Act Issues

4.5.1 Dredging and Placement of Fill in Coastal Waters

Coastal Act §30108.2 defines "fill" as "earth or any other substance or material, including pilings placed for purposes of erecting structures thereon, placed in a submerged area." The fiber optic cable that will be placed on the seafloor constitutes fill as defined in Coastal Act §30108.2.

Burying the cable will entail dredging a 4.0-inch wide by 3.0 foot (1.0 meter) deep trench from a location about 2,000-4,600 feet west of the mean high tide line to, on average, roughly 26 miles (15.6 km) offshore in federal waters. The pre-lay grapnel run will create an approximate 1.0 foot-wide swath of disturbance. Additionally, the cable plow rides on two skids (each 3 feet wide) that will disturb a 6.0 foot wide area.

Coastal Act §30233 (a) states in part:

The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

- (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
- (2) Maintaining existing, or restoring previously dredged depths on existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
- (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.*
- (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
- (5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*
- (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
- (7) Restoration purposes.*
- (8) Nature study, aquaculture, or similar resource dependent activities.*

Coastal Act §30233(a) restricts the Coastal Commission from authorizing a project that includes dredging and open coastal water fill unless it meets three tests. The first test requires the proposed activity to fit into one of eight categories of uses enumerated in Coastal Act

§30233(a)(1)-(8). The second test requires that there be no feasible less environmentally damaging alternative. The third and last test mandates that feasible mitigation measures be provided to minimize the project's adverse environmental effects.

(1) Allowable Use Test

Coastal-Dependency

The proposed project would link telecommunication facilities from Morro Bay to San Diego, paralleling the California coastline offshore. This cable could be placed on land and inland of the coastal zone and is therefore not coastal-dependent since it does not "...require(s) a site on, or adjacent to, the sea to be able to function at all..." as defined in Coastal Act §30101. In fact, land-based routes along U.S 101, Interstates 5, 10 and 15, and other roadways were identified as alternatives in the EIR. Although a land-based system is not the applicant's preference, it is feasible to locate the cable on land. Thus, the Commission finds that the proposed project does not qualify as a coastal-dependent industrial facility pursuant to §30233(a)(1).

Incidental Public Service Purposes

Coastal Act §30233(a)(5) allows filling of open coastal waters for "*Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*" The two tests that must be met to qualify under this subsection include: (1) the use must be for incidental purposes including the burying of cables and; (2) the use must offer a public service.

The applicant proposes to bury the cable to a target depth of 1.0 meter out to the 1000-fathom water depth. As expressly defined by Coastal Act §30233(a)(5), the burying of cable can be considered an "incidental public service." Therefore, the Commission finds that the proposed project meets the first test under §30233(a)(5).

According to the applicant, the proposed project will provide telecommunication services to the public, and thus offer a public service. On June 22, 1999, the California Public Utilities Commission ("CPUC") issued to the applicant a Certificate of Public Convenience and Necessity ("CPCN") (Decision 99-06-076) as amended on November 21, 2000 (Decision 00-11-037). The applicant states that the issuance of a CPCN pursuant to California Public Utilities Code ("PUC") §1001 or 1013 confers public utility status on the entity receiving the CPCN. Companies receiving a CPCN are required to dedicate their facilities to the public and therefore are deemed to be "public utilities." PUC §216(a) defines public utility to include, as applicable, "every...telephone corporation,...where the service is performed for,...the public or any portion thereof." By issuing the CPCN, the CPUC has determined that "the present or future or future public convenience and necessity require or will require such construction." (PUC §1001(a)). Hence, the issuance of a CPCN to a particular company by the CPUC is a finding by the State that the public will benefit by permitting that company to offer telecommunications services to the public.

According to the applicant, CPUC decisions identifying what constitutes “offering services to the public” indicate that “the public” is any entity that is not affiliated with the telephone company. This is consistent with the definition of “the public” contained in §207 of the Public Utilities Code (“the public generally, or any limited portion of the public, including a person, private corporation, municipality, or other political subdivision of the state”). The applicant anticipates that their customers will be other telephone companies, including common carriers¹ buying bulk communications services, government agencies, large educational institutions, and large corporations.

In practical terms, a member of the public can make use of the project’s telecommunication services by buying such services from a common carrier that either owns or leases capacity on the network. After buying services from any one of the potential common carrier customers, including, for example, Pacific Bell/SBC, Qwest, Nextlink, TCG, Level 3, Broadwing, and 360Networks, a particular telephone call originated by a member of the public would be carried by their common carrier using its respective allocated capacity on the project’s network.

The public service purpose of the proposed project was also recognized by the California State Lands Commission in its April 20, 2000 decision to grant the applicant a rent-free Permit for Telephone Line Right of Way (No. 8168.9). Pursuant to PUC §7901, telephone corporations may construct and operate lines and equipment along and upon any public road, highway or the navigable waters of the State, without payment of compensation, provided the lines and facilities do not interfere with the public use. In order to qualify for the rent-free use of public lands under PUC §7901, an applicant must be authorized to provide telecommunication services within the State of California and the facilities in question must be operated as a public utility for the purpose of providing telecommunication services to the public on a non-discriminatory basis. The applicant has committed to these requirements and accordingly, the SLC granted the applicant the above permit.

Therefore, the Commission finds that the proposed project will provide a public service and therefore, meets the second “incidental public service” test. The Commission thus finds that the proposed project is an allowable use under section 30233(a)(5).

(2) *No Feasible Less Environmentally Damaging Alternative*

After qualifying as an allowable use under §30233(a), the Commission must find that there is no (a) feasible, (b) less environmentally damaging alternative to the proposed project.

(a) *Feasibility*

Coastal Act §30108 defines “feasible” as “...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.” The applicant argues that no feasible land-based alternative² exists,

¹ A common carrier is defined by Federal Communications Commission rules as any person engaged in rendering communication for hire to the public.

² According to the applicant, for a land route to constitute a valid alternative to the proposed project, it would need to avoid the existing U.S. 101/Union Pacific Rail Road (UPRR) telecom corridor as well as be more reliable.

given economic, environmental, technological, and temporal factors, that would successfully meet the project's fundamental objective of providing a diverse, more reliable high-speed transport route, directly connecting coastal city to coastal city, but avoiding the current U.S. 101 telecommunications corridor from San Francisco to Los Angeles. According to the applicant, all of the land-based alternatives (outside of the existing U.S. 101 and Interstate 5 corridors) identified in the EIR are not only more environmentally damaging (discussed below) as compared to the proposed project they are infeasible due to:

- (1) extremely high cost[s] due to increased route-lengths and the increased degree of difficulty of land-cable construction including trenching and Horizontal Directional Drill (HDD) costs;
- (2) technological infeasibility due to the segment lengths of "unrepeated" (non-electrical) cable (between coastal cities) would exceed the technological constraints of unrepeated technology (roughly, 260 km maximum);
- (3) poorer engineering reliability of the completed segments (between coastal cities) due to the rugged terrain and increased distance along the land-routes; and
- (4) inability to complete the land-based cable construction within a reasonable period of time.

Further refining the above arguments, the applicant stated that, with respect to the "best case" alternative, "...at least 80 percent of the route would require new construction in the form of new conduit installation, which corresponds to about 170-times more terrestrial construction as compared to the combined total currently planned (about 2.2 miles) between San Luis Obispo, Santa Barbara, Los Angeles, and San Diego. This additional new construction, in the amount of at least 350 miles, would add a cost of approximately \$100 million dollars to the Project, which would make the [p]roject economically infeasible. In addition, the 350 miles of terrestrial construction would add at least one and one-half years of time to achieve completion [versus roughly 4 months for the entire project]. Based upon the 'best case' terrestrial route, the proposed [p]roject cannot be accomplished successfully within a reasonable period of time."

The Commission disagrees with the applicant that, from a technological and reliability standpoint, an onshore route could not be feasibly constructed. The applicant proposes to use Dense Wavelength Division Multiplexing (DWDM) technology and, according to the applicant, its effectiveness depends on the nominal length between repeater or optical regeneration stations. If this technology could not be feasibly employed onshore due to the high number of regeneration stations necessary that would reportedly prevent significant capacity upgrades, then other technology could simply be used to carry out a land-based project. With respect to reliability, additional repair and maintenance may be required for a land-based route, reportedly due to higher fault rates, but this does not render the project infeasible.

Otherwise, a purported alternative would not meet the project objectives. As the EIR determined, such a route would need to be located on either side of the U.S. 101/UPRR corridor or down I-5 to the east. Because the land routes on either side of U.S. 101 are more mountainous and less developed, routes in these locations present more constraints to feasibly achieving the project's primary goals. All the land-based routes are less reliable than the U.S. 101/UPRR corridor, whereas the sea route is 20 times more reliable. The EIR also concluded that a route down I-5 would not provide direct connection to the coastal cities to be served by the proposed project.

(b) Less Environmentally Damaging Alternatives

To find that there is no less environmentally damaging alternative to the proposed project, it is necessary to investigate alternatives to the proposed landing sites, land-based alternatives to the offshore route, and alternative offshore routes.

Landing Sites

The EIR identified alternative landing sites for the proposed Morro Bay, Santa Barbara, Manhattan Beach, and San Diego landings. In the case of the Morro Bay and Manhattan Beach landings, the alternative sites were ultimately selected as a part of the proposed project.

Morro Bay

At the Morro Bay landing, an alternative site just inland of Cayucos State Beach in the town of Cayucos was analyzed in the EIR. This landing is approximately 3.5 miles north of the proposed landing and thus the EIR concluded that it would require longer onshore and offshore cable routes which would result in potentially greater air quality impacts and onshore water quality impacts from erosion than the proposed landing site. Moreover, additional terrestrial biological resources and steeper sloping topography may be disturbed along or adjacent to Highway 1. This alternative would also require crossing several additional creeks through the placement of conduit attached to existing bridges, which would increase the potential to disrupt nesting birds and roosting bats, if present.

The Chevron Estero Marine Terminal, approximately 2,250 feet north of the proposed landing and located in the City of Morro Bay, was also investigated as a landing site. However, after initial negotiation between Chevron and the applicant, Chevron decided not to pursue further discussions with the applicant and thus, the site was rejected as infeasible.

Santa Barbara

Alternative sites to the proposed Santa Barbara landing at Leadbetter Beach include sites to the north in Gaviota as well a landing south of the beach in the harbor area. The Gaviota landing would require greater road trenching and thus may result in additional water quality, traffic, and cultural resources impacts. The landing at the harbor may result in additional impacts to vessel traffic. Additionally, the applicant rejected both landings due to concerns that longer land routes would require a greater number of cable splices or connections resulting in a higher optical loss and a concern that the signal would not be strong enough to reach the downtown transmission facility. According to the applicant, the downtown facility is the only one in the area with the required bandwidth interconnections to telecommunication infrastructure.

Manhattan Beach

The Manhattan Beach alternative landing is located in the City of Manhattan Beach near the intersection of 12th Street and Morningside Drive. While this landing would result in shorter onshore cable route and subsequently fewer air quality impacts than the proposed landing, the

proposed landing was selected because the city expressed concerns regarding the land use compatibility and potential disruption of downtown traffic of the 12th Street landing. The proposed landing, on the other hand, would coincide with other construction occurring at the same site. Additionally, the onshore cable would also be placed entirely in existing conduit so no new construction would be required (over ½ mile of trenching would be avoided), thus avoiding potential water quality impacts, among others.

San Diego

In San Diego, the alternative landing is located north of the proposed site, just south of Del Mar, at the Torrey Pines State Reserve. This landing is not preferred environmentally due to greater air quality emissions and water quality impacts from eight miles of trenching and a longer offshore route. There also exists a potential for adverse impacts to terrestrial biological resources including sensitive species in the state reserve along a railroad right-of-way. In contrast, for the proposed onshore route, the cable would be pulled into existing cable conduit, thus avoiding potential water and air quality impacts. Offshore, the approach to Del Mar consists of shallow sandstone subcrop and extensive reaches of sandstone outcrops that have previously hosted kelp forests.

Land-based Alternatives to the Offshore Route

The applicant has seemingly defined a proposed project with objectives that only the proposed project can meet. Thus, any alternative to the proposed project will be summarily rejected for inherently failing to meet these objectives. The danger of defining projects and project objectives too narrowly is highlighted in *Save the Niobara River Association, Inc. v. Andrus* (D. Neb. 1977) 483 F.Supp. 844. The defendant agency in this case planned to construct a dam and reservoir and attempted to rely on a narrow project goal in order to foreclose consideration of an alternative involving water conservation through improved crop and livestock production methods. This alternative could have potentially saved enough water as to preclude a new irrigation source. The agency dismissed this omission by defining the project to include, as a necessity, increased irrigation. The court rejected this creative argument by stating that “The purpose of the O’Neill Unit is to provide economic stimulus and stability to the region of the project. That the present proposal seeks to do that through added irrigation does not make irrigation, as such, a purpose of the project.” (483 F.Supp. at p. 862.)

Nonetheless, the EIR analyzed various onshore alternatives to allow comparison with the proposed offshore route (originally from San Francisco to San Diego). The alternative land-based routes most relevant to the revised project (*e.g.*, San Luis Obispo to San Diego) include: (1) San Luis Obispo to San Diego along Highway 1, 227, 135, Interstate-15 (I-15) and other roadways and; (2) San Francisco to San Diego along Interstate-5 (I-5) with no connections to San Luis Obispo and San Diego.

Overall, compared with the proposed project, the EIR stated that land-based alternatives could potentially result in a greater incidence of impacts to biological, cultural, paleontological, geological, and aesthetic resources, among others. Sensitive species and their habitat (*e.g.*, wetlands and streams) could be significantly impacted. Cable installation in streams and

wetlands may create temporary barriers to fish or wildlife migration, disrupt surface flows, remove vegetation, generate turbidity, or cause mortality to resident wildlife. Moreover, the possibility of bentonite blow-outs due to directionally drilling under streams and wetlands and the resultant impacts to riparian vegetation and habitat may adversely affect protected anadromous fish species. Portions of the alternative routes traverse parks and national forest lands and thus may conflict with federal, state, and local resource protection policies. Trenching along roads and right-of-ways may result in greater magnitude of impacts to cultural and paleontological resources due to an increase in onshore trenching and a greater incidence of these resources onshore. Moreover, trenching along the side or base of hillsides could contribute to slope failure, causing cable rupture and potential damage to the roadway. A substantial number of creeks would be crossed by land-based alternatives potentially causing increased adverse impacts to water quality due to sedimentation from trenching and potential blow-outs from directional drilling operations under streams. While visual impacts would be similar in nature to the proposed project, the total amount of impacts onshore would be greater due to an increase in new construction.

The EIR anticipated, however, that the potential impacts associated with land-based alternatives could be mitigated to a level of insignificance. In the same vein, the proposed project after mitigation would also result in no significant impacts. Therefore, the EIR concluded that, after mitigation, none of the land-based alternatives would avoid or substantially lessen any significant project impact. Nonetheless, despite the degree of mitigation, the EIR emphasized that any adverse impacts caused by a land-based route would be of a greater quantity and magnitude than the proposed project. Thus, the EIR concludes that the proposed offshore route is the least environmentally damaging alternative.

As indicated above, these potential impacts may include effects on, for example, protected species, tidal marsh habitat, sensitive freshwater aquatic habitat, and cultural resources. No sensitive or protected species are anticipated to be impacted by the proposed project in the offshore route. Additionally, according to the applicant, kelp beds and other sensitive resources will be avoided, no cultural resources are known to be at risk, no permanent visual impact will result, and no wetlands will be effected by the cable landing operation.

In the absence of route specific information (*e.g.*, biological surveys, alternative stream crossing methods, sharing of existing cable “corridors”), it is impossible for the Commission to determine that there is a “feasible, environmentally less damaging alternative” to the ocean alignment of the cable. Thus, in this case the Commission relies on the general information provided by the applicant.

Alternatives to the Offshore Routes

During the initial project design, planning, and review, several sea route alternatives were considered. A route farther offshore was examined but was rejected primarily due to the limitations in the maximum leg length with the use of “unrepeated” technology of approximately 255 km (158 miles). Two additional landings would also be necessary. The EIR also concluded that the route would not avoid heavily fished areas any more than the proposed route. A route closer to shore was also investigated but was considered undesirable because of

cable safety concerns and the presence of ecologically sensitive regions, cultural resources, numerous pipelines and cables, and higher traffic density. The proposed route achieves maximum burial of the cable in order to protect it from fishing conflicts while avoiding high relief rocky substrates entirely and low relief rocky substrates to the maximum extent feasible. The impacts of these routes on these areas are discussed in section 4.5.2.2, below.

Therefore, the Commission has determined that there is no feasible less environmentally damaging alternative to the proposed project, thus meeting the second test under §30233(a).

(3) ***Feasible Mitigation Measures***

The final requirement of Coastal Act §30233(a) is that dredging and filling of coastal waters may be permitted if feasible mitigation measures have been provided to minimize any adverse environmental effects. In other sections of this report, the Commission has identified feasible mitigation measures that will minimize the project's adverse environmental effects. With the imposition of the conditions of this permit, in combination with the applicant's commitment to implement similar requirements in federal waters, the Commission finds that the third and final test of Coastal Act §30233(a) has been met.

Because the three tests have been met, the Commission therefore finds the proposed project consistent with Coastal Act §30233(a).

4.5.2 Marine Resources and Water Quality

Coastal Act §30230 states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Coastal Act §30231 states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The EIR identified the following marine biological resource and water quality impacts caused by project-related activities: (1) disturbance of soft bottom habitats and destruction of benthic

invertebrates, (2) disturbance of hard-bottom habitat and destruction of epibenthic organisms, and (3) increased turbidity or particulate loads that may be deleterious to marine organisms.

Additionally, the Commission identifies the following potential impacts: (a) cable segments that are insufficiently buried or become exposed may entangle whales migrating through the project area, and (b) drilling for the installation of cable conduit could result in the release of drilling lubricant (*i.e.*, bentonite) into marine waters. Bentonite is inert and non-toxic, though it has the potential to smother aquatic organisms if released in significant volumes.

4.5.2.1 Potential Whale Entanglement with Project Cables

Whales that migrate through coastal waters in the project area may become entangled in unburied or insufficiently buried cable. The applicant states that approximately 93% of the cable route will be buried to a target depth of 1.0 meter. However, the remaining 7% of the route will either be laid on low-relief rocky substrates or on the Hyperion sludge field in Santa Monica Bay. Additionally, in areas of hard or resistant sediment, the target depth may not be achieved.

Whales are protected by the Marine Mammal Protection Act of 1972. In addition, the sperm whale is federally listed as endangered species and therefore protected by the federal Endangered Species Act. Gray whales have been delisted from the federal endangered species list due to increased population numbers. Cable entanglement with other marine mammals such as pinnipeds (*e.g.*, sea lions, harbor seals) and fissipeds (*e.g.*, sea otters) is not expected to occur because these animals do not exhibit similar feeding behaviors in bottom sediments.

Of the whale species (*e.g.*, gray, humpback, blue, fin, sei, sperm) that are known to migrate past the project area, at least two species--the California gray whale (*Eschrichtius robustus*) and sperm whale (*Physeter macrocephalus*)--have the potential to become entangled due to their feeding behavior of excavating bottom sediments (excavations range from 15-25 cm below the seafloor). Of these two species, the gray whale has a higher risk of entanglement because it is far more common and numerous off the California coastline (Imamura, 2000). The majority of sperm whale sightings by Dohl et al. (Morro Group, 2000) occurred in open water where water depths exceed 2000 meters. Because of their rarity within project waters, impacts to sperm whales are considered unlikely to occur.

To date, whale entanglement with fiber optic cables has not been reported offshore California. Heezen (1957) documents fourteen examples of sperm whale entanglements with submarine telegraph cables worldwide³. Most of the entanglements evaluated by Heezen (1957) involved cases of deep-diving, bottom-feeding sperm whales that, he postulated, became entangled "...while swimming along in search of food, with their lower jaw skimming through the upper layer of sediment. It may also be that the whales attacked the cable mistaking it for prey." The

³At the time of the study, there were nearly a half-million miles of cable laid on the sea floor in various parts of the world (Heezen 1957). By 1928, 21 separate cables crossed the Atlantic to Canada and the United States. At present, 658,375 km of fiber optic cable is expected to be installed and operational by the year 2003 (Rampal 1998). That figure equates roughly to an additional 514,050 miles of cable in the marine environment, making a total of more than 1 million miles of cable in the marine environment, not including that which was installed between 1957 and the advent of fiber optic cable installation, and any which may have been removed since then.

report documented fourteen instances of whales entangled in submarine cables that led to death. All whales positively identified were sperm whales, with possible entanglements of baleen (*e.g.*, gray) whales in shallower water, and one humpback whale reported entangled in Alaskan waters.

Heezen's (1957) study consisted of a search of all available cable failure records of four cable companies; the record is only considered complete for those companies for the years 1930-1955. The scope of the study was somewhat limited by the fact that, prior to 1930, cable failure reports generally lacked detail or were incomplete. Our current knowledge of whale entanglements is further limited by the lack of any contemporary and comparable analysis of this topic since these studies. Moreover, since many cables have been abandoned since first laid, and since the only basis for discovering entanglement --- interruptions to service -- is not possible for abandoned cables, and since no examination of failure rates for operational cables worldwide has been made since 1957, the present rate of whale entanglement is unknown. Interpretation of entanglement risk amounts to speculation, but entanglement risk may be affected by these factors: oceanic depth of the cables; burial depth of the cables; presence of suspended cables over submarine trenches or rocky substrates; and the relative tautness of unburied cables (more specifically, shallow, unburied, looped or suspended cables pose more of a hazard than deeply buried cables). Approximately 20,000 gray whales migrate through California waters each year. Due to their abundance off the Pacific coast, their tendency to hug the shoreline during migration, and their bottom feeding patterns, gray whales may face the highest risk of entanglement with insufficiently buried or exposed cables. The majority of southbound (November to January) gray whales migrate within 2 nautical miles (nm) from shore (Morro Group, 2000). The northbound migration occurs much closer to shore with mother and calves reported within kelp beds and sometimes only yards from the shoreline. These distances, however, vary seasonally over time, particularly due to the deterring presence of boat traffic.

While resident populations of gray whales have been reported off the northern California coast, the majority of the population off of the central and southern California coast occurs during late fall and spring as they migrate between Alaskan waters and Baja California. Migrating whales or other marine mammals are not known to concentrate or feed in the area of proposed sea route or landing sites (SAIC, 2000). One study estimates that 65 to 75 percent of the gray whales on their southbound migration leave the coastal route and travel offshore, often traversing an inter-island route through the southern California Bight (*ibid.*). Migrating whales have been observed historically in Santa Monica Bay but apparently in response to increased boat traffic, their migration corridors have shifted offshore near the Channel Islands past the Los Angeles region (*ibid.*).

Assuming that whale entanglement is a direct result of bottom feeding, the risk of entanglement with the proposed cable is low. Primarily a bottom feeder, the gray will dive in waters from 150 to 200 meters deep, but prefers shallower water. One study observed that off of British Columbia, during feeding activities, gray whales created excavations through bottom sediments ranging from 15 to 25 cm in depth (Morro Group, 2000). Benthic suction feeding behavior by gray whales has been widely documented (*ibid.*). However, as mentioned above, gray whales are not known to be intense feeders during migration (Imamura, 2000a; SAIC, 2000) and are not known to feed on hard bottom substrates (SAIC, 2000). Biologists who have conducted gray whale monitoring studies off central California locations report that they have never seen, nor

heard of, gray whales bottom feeding during migration through this area (ibid.). This anecdotal report contrasts, on the other hand, with other observations of gray whales feeding opportunistically on krill at the surface during migration (Imamura, 2000). No comparable search of cable failure records has been made since these studies, thus limiting contemporary risk assessment of the potential impacts which partially buried cables might have on whales. However, the AT&T China-U.S. fiber optic cable project reports that literature searches on the internet and at the University of California, together with inquiries to the International Whaling Commission, researchers and government scientists “yielded no reports of whales or other marine mammals being injured by a fiber optic cable” (SAIC, 2000a).

Nonetheless, partly due to the protection of marine mammals under the Endangered Species Act and the Marine Mammal Protection Act, entanglement or injury impacts due to insufficiently buried or exposed cables are significant. Furthermore, during the 18-24 month period between cable route inspections, as proposed by the applicant, portions of cable can become unburied, further increasing the risk of entanglement. The applicant’s project provides no system for monitoring and reporting potential marine mammal entanglements. As such, several conditions have been incorporated as a part of this permit to minimize any potential for whale interaction with the project cables, and to document any future entanglements.

During cable laying, **Special Condition 9** requires a trained marine mammal observer, approved by the Executive Director in consultation with the National Marine Fisheries Service, be on the cable lay or support vessel to monitor the presence of marine mammals that approach the project area during cable installation. In the event that, in the opinion of the observer, project operations have the potential to threaten the health or safety of marine mammals or have the potential to take, as defined by the Endangered Species Act, a marine mammal, the observer shall have the authority to cease all project activities until the observer determines there is no longer a threat. **Special Condition 10** requires the applicant to submit within 30 days of completion of the installation activities a copy of a marine mammal monitoring report that the SLC is requiring as part of its lease approval.

Special Condition 4 requires the applicant to bury both cables to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0-meter burial depth cannot be achieved, the applicant shall bury the cables to the maximum depth feasible. This depth represent a protection factor of roughly 300% when compared with the depth (15-25 cm) at which gray whales are believed to trench into bottom sediments. The applicant has indicated that a 1.0-meter burial depth can be achieved for approximately 93% of the route. The factors influencing whether the 1.0-meter burial depth may not be achieved include localized higher sediment resistance, abrupt changes in bottom slope, and variations in cable ship speed. Most of these burial anomalies can be avoided through pre-lay surveys and a detailed burial plan, which the applicant has conducted. In addition, in areas where a 1.0-meter burial depth is not achieved, the applicant has committed to re-bury those sections to 1.0 meter with an ROV.

In order to ensure that cable installation consistent with Special Condition 4 is carried out, **Special Condition 5** requires the applicant to submit to the Executive Director the as-built plans, including burial depth, of both cables.

Special Condition 11 provides a system for monitoring cable impacts to marine mammals by requiring that if any other type of cable entanglement occurs, the applicant shall use all feasible measures to retrieve the entangled object as soon as possible but no later than six weeks after discovering or receiving notice of the incident. Over time, this type of monitoring may eventually contribute to an up-to-date risk assessment of entanglement impacts. The applicant shall provide notice to the Executive Director within seven days of repair or object retrieval efforts. The notice shall include a full description of the nature of the entanglement, as well as any recorded cable failures.

As a preventive measure against potential entanglement impacts, **Special Condition 6** requires that every 18 to 24 months for the life of project, the applicant shall survey the cable route in State waters to verify that it has remained buried consistent with the as-built cable burial plan. The survey shall be conducted by an ROV equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion the applicant shall submit to the Executive Director a report describing the results of the survey. If the survey shows that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan required by Special Condition 5 the applicant shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.

With these measures in place, the Commission believes that the project will minimize any risk of harm to marine mammals and that healthy populations of the species will be maintained as required by section 30230 of the Coastal Act.

Further, **Special Condition 7** requires that within 90 days of either taking the cable out of service or after the expiration or sooner termination of the applicant's State Lands Commission lease(s) or permit(s), the applicant shall apply for an amendment to this permit to remove the cable from the seafloor in State waters. This condition will ensure that any potential whale impacts are eliminated after the useful life of the cables.

Entanglements and Ghost Nets

Fishermen and especially trawlers may snag gear on cables. When this occurs, fishermen generally abandon their gear, thereby creating a risk to marine mammals and other species. Pursuant to a draft "Fishing Agreement" proposed by the applicant, when it appears that a fisherman has snagged a cable, he or she is expected to cut the gear instead of risking damage to the cable. If the fisherman was operating consistent with established trawling procedures, the cable companies will reimburse the fisherman for the lost gear. This abandoned gear and particularly the nets, however, then becomes a hazard to marine life, potentially entangling marine mammals and fish, preventing them from feeding and causing them to drown, over the long term (Morro Group, 2000).

Special Condition 11, therefore, requires that in the event that trawlers snag and cut their trawl gear due to entanglement with either cable, or that any other type of cable entanglement occurs, the applicant shall use all feasible measures to retrieve the entangled object as soon as possible but no later than six weeks after discovering or receiving notice of the incident. The applicant shall provide notice to the Executive Director within seven days of repair or object retrieval

efforts. The notice shall include a full description of the nature of the entanglement, as well as any recorded cable failures.

4.5.2.2 Hard-Bottom Impacts

Hard substrate (or hard bottom) areas are exposed rocky substrates that provide habitat for a diverse group of plants and animals. Impacts (*e.g.*, crushing, displacement) to rocky substrates can occur during cable lay, grapnel, and repair operations, including the anchoring of support vessels. Laying of the cables on rocky substrates would disrupt associated bottom communities, likely crushing and/or dislodging small, sessile or relatively sedentary invertebrates along a narrow strip (*e.g.*, 0.3 m wide). Sessile species may experience repeated, localized disturbances throughout the life of the cables if they move due to current action. These adverse impacts are significant because: (1) deepwater reefs are relatively rare along the central and southern California coast; (2) they support a diverse assemblage of epifaunal invertebrates; (3) they attract fish as a nursery ground, food source, and as shelter; and (4) epibiota residing on rocky substrates are sensitive to mechanical disturbance and increased sediment loads. During grapnel and cable repair operations and when support vessels anchor, the applicant has committed to avoiding areas of rocky substrates.

Results from the applicant's desktop study, high-resolution side scan sonar survey and biological ROV surveys indicate that approximately 93% of the proposed route can be buried. These surveys also confirmed that the route avoids all high-relief rocky substrates and minimizes the crossing, to the maximum extent feasible, of low-relief hard bottom. The applicant estimates that the cable will be laid on approximately 35.8 km (21.5 miles) of low-relief (less than 1.0 meter) rocky substrates. Within state waters and federal waters, a total of approximately 4.2 km and 31.6 km, respectively, of low-relief rocky substrate will be crossed. Table 2 below details the amount of rocky substrate proposed to be crossed by route segment in state and federal waters.

Table 2. Approximate Hard Bottom Length (km) Along Cable Route

| <i>Route Segment</i> | <i>Total Hard Bottom</i> | <i>Hard Bottom Within 3-Mile Limit</i> | <i>Hard Bottom in Federal Waters</i> | <i>Total Segment Length</i> | <i>% of Hard Bottom</i> |
|--|--------------------------|--|--------------------------------------|-----------------------------|-------------------------|
| Segment 3 Morro Bay to Santa Barbara | 9.01 | 2.40 | 6.61 | 222.19 | 4.06% |
| Segment 4 Santa Barbara to Manhattan Beach | 17.39 | 0.00 | 17.39 | 155.28 | 11.20% |
| Segment 5 Manhattan Beach to San Diego | 9.36 | 1.80 | 7.56 | 195.45 | 4.79% |
| Totals | 35.76 | 4.20 | 31.56 | 572.92 | 6.24% |

The EIR reports that common epifaunal invertebrates occurring in the hard bottom areas near or along the proposed sea route vary based on depth and substrate relief height. Along much of the California coast, there is a strong positive association between the types of communities and the

depths and substrate types in which they occur. Shelf communities (30 to 150 m depth) commonly include turf species (*e.g.*, various low-growing groups of hydroids, bryozoans, encrusting sponges, and tunicates), cup corals, gorgonians, anemones, seastars, and brittlestars. Middle to upper slope communities (150-300 m depth) typically include turf species, erect sponges, anemones, decapods, brittlestars, and seastars. At deeper depths (300-1000 m), species such as sponges and echinoderms are representative. According to the EIR, no documented sensitive species or species of special concern (*e.g.*, California hydrocoral or *Allopora californica*) exist along the proposed route.

Since there will be unavoidable impacts to hard bottom areas, the Commission is requiring the applicant in **Special Condition 12**, to survey the cable routes for impacts to rocky substrate and their biological communities caused by project operations. Within 90 days of project completion, the survey of the segments of the seafloor along the construction corridor which were identified as consisting of rocky substrate prior to or during the laying of the cable seafloor is to be completed by a consultant approved by the Executive Director. The survey is to quantify the extent of exposed rocky substrate, including type and relief, impacted by offshore operations out to the furthest extent of rocky substrate areas in state waters. Within 45 days of completing the survey, the applicant shall submit to the Executive Director a written report describing the results of the survey to derive net project impacts to rocky substrate. The survey report shall identify the location and quantify the extent of any disturbance to rocky substrate caused by project operations.

Additionally, **Special Condition 13** requires the applicant to compensate for all project-related impacts to hard bottom habitat, if any, through payment of a compensatory hard bottom mitigation fee to be used to construct a new artificial reef or augment an existing artificial reef in State waters within the Southern California Bight. A hard bottom mitigation fund is currently in place to accept hard bottom mitigation fees from oil companies that received coastal development permits (E-95-09, E-95-10, E-95-11, E-95-12, E-95-13, E-95-14 and E-95-17) in 1996 to abandon 23 subsea oil and gas completion wells in the Santa Barbara Channel (“the Santa Barbara Channel Subsea Well Abandonment Program”). The well abandonment program caused some unavoidable damage to hard bottom and resulted in the permittees paying about \$13,000 to the hard bottom mitigation fund.

The construction of a new artificial reef, or augmentation of an existing reef, will be carried out pursuant to a Memorandum of Agreement (“MOA”) by and between the California Coastal Commission, the California Department of Fish and Game (CDFG) and the United Anglers of Southern California (UASC) (Exhibit 6). The amount of the hard bottom mitigation fee will be calculated by multiplying the total square footage of impacted hard bottom (as determined in the survey conducted under Special Condition 12) by a compensation rate of \$27.31 per square foot (see Table 3). This rate is the sum of individual costs associated with the construction of a one-meter high artificial reef. The costs include: purchasing artificial reef materials, transportation, engineering and placement of materials, insurance, a 10% project administration fee, and a 30% project contingency fee for unanticipated project-related changes in cost. The resultant fee shall be paid to the United Anglers of Southern California within 30 calendar days of the results of the hard bottom survey required by Special Condition 12.

Table 3. Compensatory Hard Bottom Mitigation Fee

| TASK | MITIGATION FEE ESTIMATE | COMMENT |
|---|------------------------------------|---|
| Construction of Hard Bottom Habitat (year 2000 dollars) Cost of Materials (quarry rock, engineering, transportation, deposition, and insurance) | \$19.10 | Assumptions: a) Estimate based on actual construction costs for one meter high artificial reef b) Cost = \$198/ton |
| Project Administration for UASC | \$1.91 | Overhead to UASC not to exceed 10% of total funds collected. |
| SUB-TOTAL | \$21.01 | |
| Project Contingency | \$6.30 | Contingency of 30% for unanticipated project-related changes in cost of design/planning/permitting, materials, labor, or transportation |
| TOTAL | \$27.31 | |

The CDFG administers the California Artificial Reef Program in part for the purposes of (1) placing artificial reefs in State waters, and (2) determining the requirements for reef siting and placement. The CDFG has agreed to assume the lead responsibility for the planning, siting, design and permit requirements for the construction of any new artificial reef or augmentation of an existing artificial reef using the monies in the hard bottom mitigation fund. The UASC, a volunteer group of recreational anglers interested in preserving, protecting and enhancing marine resources and fishing opportunities, agreed in the 1996 MOA to accept any hard bottom mitigation fees. The funds are in an interest-bearing account. These funds including all earned interest are to be expended solely for reef materials, construction costs, and the UASC's administration of the fund (not to exceed 10% of the total collected fees). The CDFG will absorb any costs associated with the planning, siting, design, and permit requirements to construct a new artificial reef or augment an existing reef.

As stated above, other potential impacts to rocky substrate can occur from vessel anchoring, cable grapnel and repair operations. Grapnel operations will not take place over rocky substrates. If the cable is in need of repair near rocky substrates, either an ROV or a grapnel dragged in adjacent soft bottom areas will be used. The applicant has indicated that the primary cable vessel will not need to anchor at all. Project support vessels, however, are proposed to

anchor in a 2-3 point mooring as indicated in the applicant's anchoring plan. The plan prohibits anchoring on rocky substrates. The support vessel may set its own moorings on soft substrates or rely on a second vessel to vertically set and retrieve its anchors on soft substrates so as to avoid dragging them across the seafloor.

4.5.2.3 Soft-Bottom Impacts

Soft bottom areas are unconsolidated sediments (*e.g.*, gravel, coarse-grained and mixed sediments, sand, and mud) that provide habitat to epifauna (surface living) and infaunal (below-surface living) organisms. Impacts to epifauna and infauna due to the proposed project are of concern because: (1) the proposed burial of cables will disturb their seafloor habitat; (2) many infaunal organisms have limited mobility and cannot easily escape habitat disturbance or rapidly repopulate regions of disturbance; and (3) they are a source of food for more-mobile epifaunal and pelagic marine organisms such as crabs, fin fish, and marine mammals. Cable grapnel, burial, post-lay burial repair operations and vessel anchoring in soft-bottom areas will cause localized, temporary disturbance of the habitat and mortality to resident infaunal and slow-moving epifaunal species.

In order to bury the cables to the target depth of 1.0 meter within the seafloor, divers with a hand-jetter and cable plow will be used. A ROV equipped with sediment jets will re-bury any cable segments that are not initially buried to 1.0 meter. The EIR estimates that the plow will disturb bottom sediments within a corridor up to approximately 6.5 feet wide (based on the combined effects of the furrow made by the plow shank plus the tracks of the plow skids) and 1.0 meter deep. Burial by ROV and hand jets will disturb a similar area of soft bottom. Repair operations in the nearshore and adjacent to hard bottom areas, will require an ROV to jet the damaged section from the seafloor, assuming it is buried. In deeper waters and in soft bottom, a grapnel will be used to snag the cable and raise it to the surface. Repair activities are also expected to disturb a 6.5 feet width of soft bottom. During periodic surveying of the cable routes, as required by **Special Condition 6**, if any cable segments have become exposed, the applicant will re-bury those segments, pursuant to an approved re-burial plan, with an ROV jetter.

Based on the above estimates of disturbance to soft-bottom areas due to the proposed project (excluding areas to be impacted by anchoring), the applicant calculated a total potential area of impact of approximately 249 acres.

Soft-bottom disturbance will also occur during the anchoring of dive support vessels. The vessels, 20 to 30 feet in length, will serve as a dive platform and may need to anchor from the end of the cable conduits to water depths of 30-60 feet. The vessel will use a 2-3 point mooring with an anchor spread of approximately 8 feet. When near rocky substrates, an assist vessel will set and retrieve the anchors on soft bottom substrates and retrieve them vertically so as to avoid dragging them across the seafloor.

The EIR reports that over a thousand infaunal and several hundred species of epifaunal invertebrates inhabit soft-substrate shelf and slope areas off of southern and central California. Examples of dominant infaunal invertebrates at shelf depths (30-150 m) include numerous species of polychaetes, amphipods, brittlestars, and small clams. Polychaetes are also make up a

majority of species at deeper depths on the slope (150-300 m). Representative species of epifaunal macroinvertebrates, occurring in high numbers and variable density and biomass, include seastars, brittlestars, gastropods, and cnidarians. At deeper depths, soft substrates are generally inhabited by sea pens, octopus, sea stars, and multiple species of small polychaetes and crustaceans. However, in deep basin areas (*e.g.*, below roughly 500 to 700 m) low oxygen conditions contribute to decreased abundance and biomass of invertebrates. This condition particularly applies along the cable route in the Southern California Bight (Santa Barbara, Santa Monica, and San Pedro Basins). Where the proposed route extends through near-island habitats like the Santa Barbara Channel, the above communities become diverse and abundant.

The EIR concludes that damage to the marine invertebrate community from cable installation and repair activities, including vessel anchoring, in soft-bottom habitats will be less than significant for the following reasons: the disturbed area will be very small; no species of special concern occur in soft bottom habitats; and most soft bottom communities would typically recolonize and recover rapidly following a short-term, localized disturbance. It is expected that invertebrates would recolonize the disturbed corridor primarily by immigration from adjoining areas.

In addition, the WorldCom EIR cites studies highlighting key factors for relatively rapid recolonization rates at disturbed sites. Two studies found that a “mobile adult stage of nearby species and small areas of disturbance allow for faster recolonization” (Morro Group, 2000). When compared to sand and gravel mining and dredging operations, the width disturbed by burial and repair activities will be very small and thus will be conducive to rapid recolonization. The EIR also reports that the “recolonization process is highly influenced by the similarity of the new altered substrate to nearby unaltered sediments”. In the project area, the soft bottom sediments to be impacted are very similar (if not identical) in nature to adjacent areas. Other studies of sand and gravel mining and dredging operations have found rapid infaunal recovery within 18 months to 3 years. In this case, because cable burial and repair operations will impact a significantly smaller area than sand or gravel mining, the EIR estimated that recovery could occur on a time scale of months rather than years.

4.5.2.4 Other Sensitive Plant and Animal Species

According to the EIR, no sensitive plant species (*e.g.*, attached kelp beds or eelgrass), pinniped haulout areas, sand dollar beds, bird habitat or other sensitive resource areas occur along the offshore route or directly adjacent to the proposed landings. The applicant has stated that landing sites have been selected to minimize the occurrence of kelp plants by locating the conduit exits in sandy areas. However, based on an August 2000 biological survey of the landings, extensive aggregations of drift kelp (*Macrocystis*) were observed along the Santa Barbara landing. Although the ROV video survey did not encounter any attached kelp, their absence near the landing area could not be confirmed. The applicant has agreed to avoid all kelp plants at this landing and all landings, if present, during cable installation activities to the maximum extent feasible. Divers used during nearshore landing activities will be able to work around kelp plants as installation will be done by hand and work vessels will avoid impacting them.

4.5.2.5 Marine Water Quality Impacts

The proposed project offshore lies in open and coastal waters off of Estero Bay (but within the limits of the City of Morro Bay), Santa Barbara, Manhattan Beach, and San Diego. Water quality offshore Santa Barbara is relatively pristine, though coastal water quality within Estero Bay is more affected by human-induced factors such as waste discharge and coastal runoff. Petroleum development, commercial vessel traffic, natural hydrocarbon seeps, river runoff, municipal wastewater outfalls, and minor industrial discharge all contribute to slightly increased levels of nutrients, trace metals, and synthetic organic contaminants in marine waters. However, compared to more industrialized coastal regions to the north in Monterey Bay and to the south within the Southern California Bight, contaminant input into the waters of Estero Bay is small and, thus, the waters of Estero Bay are relatively pristine and unpolluted. Agricultural and urban runoff contributes significant levels of pollutants only during isolated events of high rainfall.

In contrast, the Manhattan Beach landing site is located in Santa Monica Bay, a coastal embayment between Point Dume and the Palos Verdes peninsula located in one of the most densely populated areas on the west coast. Water quality conditions within the bay are affected by general oceanographic conditions as well as point and non-point sources of pollutants, including wet and dry weather flows through storm drains and urban runoff, and municipal and industrial wastewater discharges, the latter representing the largest source of pollutants to the bay. The Hyperion Treatment Plant alone discharges an average of 352 million gallons per day of treated sewage. Based on a 1994 Bight Pilot Project, which measured sediment quality within the Southern California Bight, of 13 sediment parameters measured, average concentrations for 12 constituents, including cadmium, chromium, copper, lead, mercury, total DDT and PCBs, were significantly higher inside the bay compared with measurements in the rest of the Bight.

Offshore of the San Diego landing site, coastal water quality is locally influenced by factors including nearshore currents, ocean outfalls, coastal runoff, and regionally by episodic events such as El Niño, La Niña, offshore storms, and upwelling. Similarly, marine sediment composition, grain size, and chemistry are also influenced by these environmental factors. In a 1994 study, relatively low concentrations of trace metals and relatively higher concentrations of total nitrogen, carbon, and biological oxygen demand in the vicinity of the landing site characterized San Diego shelf sediments.

The principal impact on marine water quality due to the proposed project is increased turbidity due to the suspension of surficial sediments during cable installation, including grapnel, burial, re-burial, and repair operations, and hand-jetting operations to expose the cable conduits as they approach the seafloor. Additionally, horizontal directional drilling operations could discharge drilling fluids or bentonite in sufficient quantities to destroy marine organisms.

Turbidity Increases Due To Cable Installation and Conduit Cleaning and Jetting

The EIR considers project-related water quality impacts to be significant if: (1) the effects of cable installation activities are persistent and not reversed by natural dispersive processes within a few days; (2) its effects extend beyond the cable corridor a lateral distance equal to water

depth; (3) they result in visible oil or grease; and (4) they cause physio-chemical changes that impact the marine ecosystem or are measurably different from ambient background conditions.

Cable installation activities would resuspend existing bottom sediments to form a plume with elevated particle concentrations and increased turbidity levels, relative to surrounding waters. These activities include: 1) pre-lay grapnel run to clear the plow path of debris; 2) cable burial by plow and ROV; and 3) cable re-burial and repair operations. The pre-lay grapnel run will disturb sediments along the planned cable routes to be plowed to the extent of the size of the grapnel, roughly 0.3 m (1.0 feet) wide and its subsurface penetration depth of approximately 0.4 meters (1.3 feet). In contrast, the cable plow, ROV, and hand-jetter will all disturb an area approximately 2.0 m (6.0 feet) wide and 1.0 m (3.0 feet) deep. Repair operations by ROV will re-suspend sediments over a similar area. As previously identified, the applicant calculated a total potential area of project-related impacts, including installation, to soft-bottom habitat of roughly 249 acres.

The size of the plume caused by cable installation activities depends on the grain size of the bottom sediments, rates at which the suspended particles settle to the bottom or are dispersed by bottom currents, and the energy produced by the trenching equipment. Nonetheless, the plume diameter is not expected to exceed tens of meters, would be confined to near-bottom waters, and is not anticipated to affect adjacent areas at distances from the cable route greater than the water depth of the cable. The plume's duration at any one location would be temporary (*i.e.*, several hours) and its formation and dissipation would occur simultaneously. Cable installation would not discharge visible oil or grease or other physicochemical changes that would impact the marine ecosystem. Once installed, the buried cable would not cause any subsequent alternations in suspended sediment or turbidity levels. Similar to the effects from cable installation, repair operations would cause localized and temporary sediment suspension.

The California Ocean Plan, the only water quality standard applicable to ocean turbidity impacts, defines unacceptable reductions in natural light in terms of changes to mean conditions that exceed 95% confidence limits. However, based on measurements of ambient suspended-solids in comparison with this standard, the WorldCom fiber optic cable project EIR found that wide fluctuations in turbidity exist near the Morro Bay landing of the WorldCom project. Thus, the WorldCom EIR concluded that "Project-related increases in suspended particulate loads near the portal area are likely to meet Ocean Plan standards because they will probably fall within the large natural variation in nearshore turbidity" (Morro Group, 2000). The project EIR did not undertake similar site-specific measurements of ambient suspended-solids in comparison with the California Ocean Plan standard. Nonetheless, it did note that "because the majority of the proposed sea route is several miles offshore (in federal waters) and at depths greater than 500 feet, temporary and localized sediment resuspension would not result in visual impacts or decreases in light availability to photosynthetic organisms lasting more than a few days" (SAIC, 2000). Considering the above, the EIR concluded that water quality impacts of the proposed project would be adverse but less than significant.

To prepare for the landing of the cable, the conduits will be cleaned and flushed using air pressure and potable water. This activity will disturb bottom sediments, resulting in their suspension and deposition around the opening of the conduits. No lubricants or chemicals will

be used during this activity. The only materials expected in the conduits are seafloor sediments that may have entered the conduit during installation and a small amount of rust (insoluble iron oxide) from the inner surface of the pipe. Because these materials are non-toxic, no adverse effects on marine organisms or water quality are expected beyond the immediate area of sediment suspension. In order to expose the conduit openings where it surfaces from the seafloor, divers will hand-jet the overlying sediments. The applicant estimates that 1-2 cubic yards of sediment will need to be dispersed from a shallow pit surrounding the openings. Sediments in both areas are comprised of sand and are expected to resuspend within a few feet and settle out within a few minutes.

As the proposed route travels through Santa Monica Bay, the cable will be laid (not buried) on the Hyperion sludge field for a distance of 15 km. Although use of the sludge outfall stopped in 1987, sediments immediately offshore from the sludge line still contain elevated contaminant (*e.g.*, DDT and PCBs) concentrations (SAIC, 2000). Laying the cable on the surface of the seafloor in this area would minimize potential impacts from sediment suspension. Some sediments would still be suspended (lower than 10 mg/l), but because of their strong attraction to particles most of the contaminants are expected to remain attached to the particles despite a small portion that is expected to dissolve into near-bottom waters.

The EIR analyzes in detail the potential for the proposed project to exceed receiving water standards (30-day average) as contained in the California Ocean Plan and discusses the implications on water quality. In summary, the EIR stated that “cable installation [in the Hyperion sludge field] is expected to cause relatively localized and short-term (<0.37 hours) impacts to near-bottom water quality, consisting of elevated suspended sediment and sediment contaminant concentrations, due to short-term and localized resuspension of existing sediment contaminants” (SAIC, 2000). These contaminant concentrations are expected to exceed the receiving water quality criteria, as contained in the Ocean Plan, instantaneously for a short period but would not have a measurable impact on 30-day average standards. The EIR determined that the existing background concentrations may already exceed these standards and the proposed project would have “negligible impact beyond a region immediately adjacent to the proposed cable route” (*ibid*). Furthermore, because the net bottom current flow in Santa Monica Canyon is down-canyon, resuspended particles would be dispersed into deeper areas further from shore.

Impacts from the Fiber Optic Cable

The proposed cable has been designed for a minimum 25-year operational life. This requirement necessitates the use of stable construction materials. The outer layers of cable that can be exposed to sea water are made of polypropylene yarn and blown asphalt. Polypropylene, used as an insulant in the construction of most submarine cables, “is exceptionally stable and hydrophobic” and is “typically used in the transportation of water for human consumption in construction and domestic installations. It has no components that leach” (Global Photon, CDP application).

Blown asphalt is a petroleum-based product. Asphalts are well known for their use in a wet environment or as a waterproofing material. Asphalt paving materials have been used as liners

for water reservoirs for decades and also have been used to line potable water pipes and on pier pilings.

The WorldCom EIR analyzed the potential for chronic toxicity from volatile petroleum hydrocarbons leaching from the asphalt cable coating and concluded that such effects are likely to be localized and of limited magnitude (Morro Group, 2000). The EIR for the proposed project concluded that because the cable will consist of inert materials, it is not expected to dissolve or leach chemicals that could alter the chemical properties of overlying waters.

Horizontal Directional Drilling

Directional drilling for the installation of cable conduit will require the use of bentonite as a drilling lubricant. The bentonite will be mixed with water and circulated into the bore hole to prevent it from caving in and to coat the wall of the hole in order to minimize fluid losses to permeable formations. Drilling fluids also act as a drill head lubricant and transport the cuttings up to the entry point.

Bentonite (sodium montmorillonite), a natural clay, is inert and non-toxic, though it can cause adverse impacts to aquatic organisms by physical abrasion, clogging, or smothering when released in significant quantities. According to the EIR, bentonite may contain elevated concentrations of barium and other metals that are present as trace impurities in clay. However, these metals are in the form of insoluble salts and thus do not readily dissolve in seawater and are not biologically available. Moreover, the acute toxicity of bentonite is very low (SAIC, 2000).

During conduit drilling beneath the onshore landing and seafloor, a release of bentonite may occur if geologic fractures within a formation are encountered (further discussed in section 4.6). The EIR states that "...where a fracture is lateral and subterranean, lost fluids would never surface" (SAIC, 2000). However, if a fracture is close to the seafloor surface or is aligned in a vertical or uplifted fashion, high drilling pressures may force the release of fluids through the surface. Drilling through fractures has been a common occurrence in previous fiber optic cable projects permitted by the Commission (*e.g.*, MCI WorldCom/MFS Globenet (E-99-011), PC/PAC (E-98-027), and AT&T (E-00-004).

The applicant proposes to monitor continuously drilling fluid returns and pressure to detect fluid loss in order to avoid or minimize potential releases of bentonite ("frac-outs") to the marine environment. If a loss of fluid volume or pressure is detected, drilling will be stopped or slowed to allow close observation for a surface release to the ocean. If a release is discovered, the applicant will take measures to reduce the quantity of fluid released by reducing drilling fluid pressures and/or thickening the drilling fluid in order to attempt to seal the fracture causing the release. Depending on the geology of the formation being penetrated, water will be used to lubricate the final portion (approximately 62 to 100 feet) of the borehole. This will minimize the release of bentonite into marine waters as the drill head emerges from the seafloor. Any surface releases of bentonite above the mean high tide line will be contained with sand bags and collected for reuse or disposal. The EIR states that containment and collection of a release below the mean high tide line is impractical as the fluids would dissipate in the seawater.

Even with these preventive measures in place, fractures will likely occur that may release bentonite into the marine environment. Depending on the volume of bentonite released, marine aquatic organisms could be adversely impacted. As stated above, all previous fiber optic cable projects permitted by the Commission this year have experienced fractures. However, to date, no detectable releases of bentonite into marine waters have occurred.

In anticipation of potential fractures and releases of bentonite, the Commission requires in **Special Condition 15** that, prior to permit issuance, the applicant shall submit to the Executive Director for approval a drilling fluid mitigation and spill contingency plan that includes: (1) an estimate of a reasonable worst case release of drilling fluid into marine waters caused by project operations; (2) a clear protocol for monitoring the use of drilling fluids, including criterion for identifying an unanticipated release of bentonite; (3) a response and clean-up plan in the event of a marine spill or discharge; (4) a list of all clean-up equipment that will be maintained on-site; (5) the specific designation of the onsite person who will have responsibility for implementing the plan and; (6) proposed measures to seal fractures.

With these prevention and response measures in place, the Commission believes that marine resources will be protected, as required by §30230 of the Coastal Act.

Marine Vessel Discharge

Discharge of sewage or bilge/ballast water could result from marine vessels operating in state waters as part of the proposed project. Federal and state regulations prohibit the discharge of sewage waste and other sanitary wastes that disperse rapidly in the water column. Resultant water quality impacts would primarily consist of an increase in organic suspended solids and the associated biological oxygen demand. Discharge of bilge or ballast water could result in the introduction of non-native species into the local marine ecosystem.

In response to the above concerns, **Special Condition 8** requires there to be no marine discharge of sewage or bilge or ballast water from vessels either installing or repairing project cables.

Federal Consistency Certification

The applicant has committed in its consistency certification to carry out the same requirements of Special Conditions 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 15 to the seaward extent of the project in federal waters.

4.5.2.6 Conclusion - Marine Resource and Water Quality

The Commission finds that the requirements of Special Conditions 4, 5, 6, 7, 9, 10, and 11 will substantially minimize the potential for marine mammals to become entangled with or adversely impacted by project cables or ghost nets. Special Conditions 12 and 13 provide for the mitigation of impacts from cables that are laid on hard bottom habitat. Special conditions 14 and 15 will substantially minimize the potential for potential releases of oil or bentonite into marine waters.

Based on the reasons discussed above, the Commission finds that, as conditioned, the proposed project will be carried out in a manner that maintains marine resources and sustains the biological productivity and quality of coastal waters and therefore is consistent with Coastal Act §30230 and 30231.

4.5.3 Oil Spills

Coastal Act §30232 states:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

The proposed project does not involve the transport, use, or disposal of hazardous materials other than the marine fuel oil, lubricants, and petroleum products that are part of the normal cable laying vessel maintenance and operation. Nonetheless, the proposed project operations could potentially increase the chance of a vessel collision and a release of oil into the marine waters. However, the risk of an oil spill due to project-related activities, is very low.

The EIR concludes that the cable laying and the support vessels will not present a navigational hazard to fishing, recreational, or other vessels in the project area and that the likelihood an accident and subsequent oil spill is low. Furthermore, at each landing site, the risk of a spill will be minimized by scheduling construction or repair activities when nearshore weather conditions and moderate to mild. Under the federal Submarine Cable Act (47 USC 21), fishing vessels and other ships must keep their equipment or vessels at the distance of one nautical mile from a vessel engaged in laying or repairing cable or at least one-quarter of a nautical mile from buoys intended to mark the position of a cable when being laid. The cable laying vessel(s) will be well marked and will be well lighted during the night so that other mariners can easily see them.

Coastal Act §30232 requires an applicant to undertake measures to prevent an oil spill from occurring. In order to minimize the chance of a vessel collision, the applicant has committed that at least 15 days in advance, it would post notification, in the local U.S. Coast Guard district's *Notice to Mariners*, about the pending offshore cable laying operations to ensure that mariners on commercial and military vessels as well as recreational boaters would have prior notice of the cable laying operations. This notification would include such information as: the vessel name and radio call sign, size of vessel, schedule for project operations for specific areas, daily work hours of vessel operations, and 24-hour telephone numbers for on-site project representatives. A State Lands Commission permit condition for the proposed project also requires the applicant to post a project construction schedule with Harbor Patrol offices in all harbors within 50 miles of the work location so that mariners will be informed of offshore project activities and project vessels at all times. The applicant will also follow any local guidelines for public notification for each of the landing areas.

Notwithstanding all efforts to avoid a collision, there is the possibility of an accident that could result in a spill. To provide protection against the spillage of petroleum products, the EIR states

that a Shipboard Oil Pollution Emergency Plan for the proposed cable laying vessel will be in place as required by the U.S. Coast Guard. This document contains preventive measures as well as procedures to be followed in the event of a spill, including hydraulic fluids as well as fuel and other types of oil spills, either onshore or offshore. It also provides the location and means for contracting additional cleanup resources to be used if the spill exceeds the clean-up capability of the cable vessel. The applicant has also provided that the primary work vessel will carry on board: a minimum of 400 feet of sorbent boom, at least five bales of sorbent pads (10" x 18" square), and a small powered boat for rapid deployment to contain and clean up any small spill or sheen on the water surface.

The applicant is also required to submit to the California Department of Fish and Game Office of Oil Spill Prevention and Response ("OSPR") a non-tank vessel oil spill contingency plan for its work vessel because it is larger than 300 gross tons, pursuant to the requirements set forth in 14 CCR §825.03-827.02. The applicant has committed to submitting an oil spill contingency plan to OSPR that, among other required components, will include geographic specific information. This information will specifically address the potential oil spill risks and impacts for the applicant's cable laying operations in State waters offshore each landing. **Special Condition 14** requires the applicant, prior to commencement of cable laying operations, to submit: (a) evidence to the Executive Director that the OSPR has approved the required non-tank oil spill contingency plan and; (b) a copy of the project-specific geographic oil spill plan supplement for the applicant's cable laying operations in State waters offshore Morro Bay, Santa Barbara, Manhattan Beach, and San Diego.

The applicant has agreed in its consistency certification that the oil spill contingency plan prepared for the OSPR pursuant to Special Condition 14 will also cover project-related activities in federal waters.

With these measures in place, and the imposition of Special Condition 14, the Commission finds the project consistent with the requirements of Coastal Act §30232.

4.5.4 Commercial and Recreational Fishing

Coastal Act §30234.5 states:

The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

Commercial fishing is an important component of the regional economy in central and southern California. In San Luis Obispo County, commercial fishing is conducted out of two ports: Morro Bay, and Port San Luis. Harbors in Santa Barbara, Port Hueneme, Los Angeles, San Pedro, Terminal Island, Long Beach, Oceanside, and San Diego, service fishermen along the proposed route in southern California. The most common fishing gear types along the California coast include trawls, trolling, longlines, and gillnets. The largest component of the west coast fisheries is groundfish (*i.e.*, rockfish, flatfish, sablefish), which comprise over 45 percent of the catch.

The single gear type that has the greatest potential for interacting with the proposed cable is trawls. Where the cable is proposed to be buried along the route, trawling can still occur. However, in portions where the cable is not buried (*e.g.*, over rocky substrates), is insufficiently buried, or becomes exposed, and where trawling occurs, the cable may be snagged and potentially damaged. Moreover, trawl fishermen may lose their gear.

Recreational fishermen, on the other hand, are less likely to experience the same impact because their gear, if it contacts the bottom at all, is unlikely to dig into the bottom. Entanglement resulting in recreational gear loss is possible especially if the cables are suspended or exposed in hard bottom areas. However, the high proportion of buried cable renders gear or anchor contact unlikely.

The most common species targeted by trawlers in central and southern California are ridgeback shrimp, spot prawn, rockfish, flatfish, and sea cucumber. In the Santa Maria basin, trawlers fish at water depths up to 400 fathoms (approximately 2,400 feet) primarily over soft bottom and low relief (less than 1.0 m tall) hard bottom. Statistics (species and pounds) compiled by the California Department of Fish and Game (CDFG) for the 1998 commercial catch at various ports are represented in the Table 4 below. No statistics were reported for the San Diego region but according to the EIR, between Manhattan Beach and San Diego, trawl species caught along this segment are limited to halibut, thornyheads, sablefish, and sea cucumbers.

Table 4. Species and pounds of trawl fishery at selected ports based on 1998 commercial harvest.

| PORT | SPECIES | TOTAL POUNDS |
|-----------------|--|--------------|
| Morro Bay | Sole, rockfish, sablefish, spot prawn | 102,421 |
| Santa Barbara | Ridgeback prawn | 206,003 |
| Port Hueneme | Spot and ridgeback prawn | 24,585 |
| Los Angeles | Halibut, scorpionfish | 87 |
| Terminal Island | Halibut, sole, scorpionfish | 54,159 |
| San Pedro | Rockfish, spot and ridgeback prawn, halibut, spiny dogfish shark, sea cucumber | 11,499 |

During the last four years, on average, fish landing of 3,740 tons reported for Morro Bay and Port San Luis/Avila had a value of \$6.8 million. Catch from trawls for both Morro Bay and Port San Luis/Avila made up approximately 76% and 78% of landings by weight and 57% and 60% of dollar value, respectively. Secondary economic effects of commercial and recreational fishing at all landings are substantial, and include tourism, seafood processing and the aesthetic and visitor-drawing qualities of working fishing ports.

Recreational fishing in the project areas mostly occurs on charter or privately owned vessels. An individual charter boat can make approximately 100 trips per year. Recreational fishing is seasonal in nature, with peak seasons falling in April-July (salmon), all year (rockfish) and July – December (albacore tuna). The contribution of this economic sector is unknown, though sportfishing typically equals or exceeds the economic contribution of commercial fishing on a

statewide basis. The majority of recreational fishing is accomplished by “jigging” or trolling baited hooks or lures, depending on the species targeted.

Cable-laying Impacts

Temporary economic impacts to trawlers and recreational fishermen may also result during installation of the cables. Pursuant to the federal Submarine Cable Act (47 U.S.C. 21 §24), all vessels are required to maintain a distance of at least one nautical mile from a vessel laying or repairing a cable and one-quarter mile from the buoy of a vessel intended to mark the position of a cable when being laid or out of order⁴. However, de facto preclusion areas created by all cable installation activities will be temporary (approximately 53 days) and in constant motion as the cables are being laid and/or buried so there will be sufficient access to other fishing and boating areas in the project area. Moreover, once the cables are buried, the exclusion zone becomes ineffective, allowing unrestricted access to these areas. Fishing could occur at locations within the route, but away from the vessel, throughout the installation period.

To minimize any potential conflicts with commercial and recreational fishing activities, at least fifteen days prior to commencement of offshore construction activities, the applicant will file an advisory of pending offshore construction operations, including all vessel activities, work locations, and schedules, with the local U.S. Coast Guard District Office for publication in the Local Notice to Mariners. The applicant will also provide the same notice directly to the harbor masters in ports near the affected areas, fishing associations, and other local fishermen who request it so that mariners and recreational fishing vessels will be informed of offshore project activities and vessels at all times. These notices will also indicate that any preclusion impacts or economic losses will be compensated by the applicant by filing a compensation form. Fishermen will calculate their losses by comparing the average hourly net revenue for trips in the affected area before or after cable installation with the net revenue for trips that were affected by cable installation. Fishermen must verify amount of catch by submitting CDFG landing receipts. Claims will be paid directly by the applicant to the individual fishermen.

Bottom Trawl-Cable Entanglement

Commercial trawlers face potential adverse, significant impacts because their bottom trawls may snag cable segments that are insufficiently buried or exposed on the seafloor. Bottom trawls are designed to maintain contact with the seafloor. As they are towed over the seafloor, a rope or chain that precedes the net opening startles prey off the ocean bottom and into the net. However, the size of the trawl boards used to spread the trawl net on the largest vessels is such that they would normally skim the surface of the seafloor with a maximum estimated penetration of 0.15 to 0.3 meters (6 to 12 inches) in the softest sediments (*e.g.*, mud); in firmer sediments, the maximum penetration is approximately .06 meters (3.5 inches). Thus, the project’s target cable burial depth of 1.0 meter provides a protection factor of over 300%.

⁴ Fishermen who willfully or negligently snag and damage cables can be imprisoned or be subject a maximum fine of \$5,000 under the federal Submarine Cables Act (47 U.S.C. 21).

Nonetheless, if trawl gear is snagged and lost, fishermen would incur financial losses from abandoned gear and lost fishing time. As previously mentioned, the applicant estimates that the cable will be laid on approximately 35.8 km (21.5 miles) of low-relief (less than 1.0 meter) rocky substrates. Within state and federal waters, a total of approximately 4.2 km and 31.6 km, respectively, of low-relief rocky substrate will be crossed. According to the Southern California Trawling Association, representing the majority of trawlers operating in project waters, exposed cable is proposed to be located in the following CDFG fish blocks, in which trawling occurs: 644, 654, 666, 702, and 860. Therefore, the applicant has agreed, through a “fishing agreement”, to compensate fishermen for 100% of the gear replacement costs and 50% of the replacement costs for loss of catch and fishing opportunity.

Measures to Reduce Fishing Conflicts

The applicant proposes to mitigate the potential economic impacts of gear entanglement through a number of measures. Most importantly, the applicant proposes to bury the approximately 93% of the cable route to a target depth of 1.0 meter in state and federal waters. Buried cable will minimize potential gear entanglement and resultant loss experienced by fishermen. Burial of cables will also allow fishermen to continue to fish over project areas. The applicant believes that cable burial has been effective in protecting cables from damage by bottom trawling and in avoiding gear entanglement and loss. According to the cable industry, no loss of fishing gear has ever occurred with buried cable.

As indicated above, a 1.0-meter burial depth constitutes a cable protection factor of over 300 percent. **Special Condition 4** of this permit requires each cable to be buried to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0-meter burial depth cannot be achieved, the applicant shall bury the cables to the maximum depth feasible. **Special Condition 5** requires the applicant within 30 days of cable installation to submit to the Executive Director an as-built cable burial plan for both cables.

The Commission is also requiring in **Special Condition 6** that every 18 to 24 months for the life of the project, the applicant shall survey the cable routes from the mean high tide line to the seaward limit of state waters to verify that the cables have remained buried consistent with the as-built cable burial plan required by Special Condition 5. The survey shall be conducted with a remotely operated vehicle (“ROV”) equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, the applicant is required to submit a report describing the results of the survey. If the survey shows that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan, the applicant shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.

Within 90 days of either taking a cable out of service or after the expiration or termination of the applicant’s SLC lease and permits, whichever is earlier, the Commission is also requiring the applicant in **Special Condition 7** to apply for an amendment to this permit to remove the cables from the seafloor.

In addition, telecommunication companies (*e.g.*, AT&T, MCI WorldCom), including the applicant, have negotiated an agreement with fishermen with the intent of minimizing potential conflicts between fishing and fiber optic cables and providing for compensation in the event of a conflict. The applicant is a signatory to an "Interim Agreement" ("IA") with individual trawlers (approximately 23) operating out of Morro Bay and Port San Luis and two mutual benefit associations: The Morro Bay Commercial Fishermen's Organization and the Port San Luis Commercial Fishermen's Association. A draft "Agreement Between Global Photon Systems, Inc. and Fishermen" ("DA"), similar to the IA, has been agreed to in principle between the applicant and the Southern California Trawlers Association ("SCTA") but has yet to be executed.

Special Condition 17 requires that prior to issuance of this permit, the applicant shall submit to the Executive Director a fully executed "Agreement Between Global Photon Systems, Inc. and Fishermen" entered into between the applicant and the Southern California Trawlers Association and any other individual commercial fishermen who are not members of the above association and are licensed by the California Department of Fish and Game to trawl in areas traversed by the project and who choose to enter into the above agreement.

According to the SCTA, there are roughly 30 trawlers fishing off of Santa Barbara, Ventura, and Los Angeles. Approximately 16 are members of the SCTA. The remaining trawlers are not members of the SCTA and thus are not represented in negotiations with the applicant. Therefore, in **Special Condition 16**, the applicant shall, prior to issuance of this permit, use diligent good faith efforts notify in writing individual commercial trawlers who are not members of the Southern California Trawlers Association but are licensed by the California Department of Fish and Game to trawl in areas traversed by the cable route of the fishermen's agreement. The notification shall (a) describe the proposed project, including a map and exact coordinates of the proposed route, (b) contain a copy of the "Agreement Between Cable Companies and Fishermen," (c) explain how interested trawlers may become parties to said agreement, and (d) provide the applicant's contact information. The applicant shall allow trawlers 30 days, from the date of the notification, to respond, before installing the cable in state waters. The Executive Director shall be provided a copy of the notice, a list of trawlers contacted, and a list of trawlers who sign said agreement.

As stated in the IA and DA, "It is the intent of the parties to achieve [project] objectives with minimal impacts upon the viability of the commercial fishing industry and the (sic) minimally affect the extent and traditional areas in which the commercial fishing industry is able to operate, and the practices and procedures used by the commercial fishing industry." The IA covers the applicant's activities in state and federal waters out to the 1,000-fathom water depth. The DA covers the applicant's activities out to the seaward extent of the proposed cable route in state and federal waters.

The Morro Bay IA, dated July 22, 1999, provides a host of preventive and mitigation measures designed to avoid conflicts between the two industries. The DA presented to the SCTA contains similar provisions. For example, the applicant agrees to:

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- Distribute documentation in writing, electronically, and on navigational charts of cable location and burial depth (after installation) to assure that accurate positions and depths are known to fishermen and other interested parties;
 - Establish a Joint Cable/Fisheries Liaison Committee (JCFLC), comprised of fishermen and cable company representatives to "...facilitate inter-industry communication, coordination and cooperation between the commercial fishing industry of Central California and undersea fiber optic telecommunications companies operating in California";
 - Fund a Committee/Liaison Office Fund to the amount of \$25,000 to \$50,000 annually per cable company. This fund will be used to pay for and reimburse committee activities and members for committee participation ;
 - Establish a 24-hour hotline to take calls from fishermen who believe they have snagged their gear on the telecommunications cables owned or operated by the particular cable company;
 - Pay 100% of the costs of gear sacrificed by fishermen as a result of snagging cable and 50% of the gear's value to settle claims for loss of business incurred by the fishermen provided 1) the fisherman has informed the 24-hour toll-free telephone hotlines of its situation; and 2) the fisherman conduct was consistent with the Fishing Vessel Operating Procedures established pursuant to the IA;
 - Release any claims they might otherwise have against individual fishermen and refrain from taking any administrative, legal, or other action to sanction and/or recover damages against fishermen who comply with terms and conditions of the IA;
 - Assume all liability, responsibility, and risk for any damage which may occur to their cables resulting from their inability to construct, maintain, place, and continue those cables in a manner which does not interfere with traditional fishing operations;
 - Abandon and remove out-of-service cables, as a condition of any government approvals, so as not to interfere with commercial fishing activities in the areas where such cables were previously installed;
 - Annually deposit \$50,000 to \$100,000 per project in a special fund for the enhancement of commercial fisheries and the commercial fishing industry and support facilities. The payment of such ordered mitigation shall be offset by funds paid pursuant to this paragraph; and
 - Pay \$500 to each licensed fisherman who signs the Independent Agreement for use in upgrading communication and navigation equipment;

Additionally, in its lease approval, the SLC has required the following measure:

Fishermen complying with the Operating Procedures as referenced in the IA will be held harmless for damage to buried cables in the project area. The cable operator shall

establish a procedure through a Joint Cable-Fishermen Liaison Committee (JCFLC) or similar organization for making contact with “itinerant” fishermen to offer them the opportunity to sign the “Interim Agreement.” This procedure shall include information on who to contact to obtain details agreement and its provisions. This information shall be made available through Harbor Masters and in locations as deemed necessary by the JCFLC or required by staff of the California State Lands Commission.

The applicant proposes in its consistency certification to implement the requirements of Special Conditions 4, 5, 6, 7, 16, and 17 in federal waters.

Accordingly, the Commission finds with mitigation measures proposed by the applicant in combination with Special Conditions 4, 5, 6, 7, 16, and 17, and the applicant’s commitments in its consistency certification, the project is consistent with Coastal Act §30234.5 since the economic and commercial importance of fishing activities will be protected.

4.5.5 Public Access and Recreation

Coastal Act §30211 states that:

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Coastal Act §30220 states:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

The portions of the proposed project that lie within the Coastal Commission’s original permit jurisdiction at Morro Bay, Santa Barbara, and Manhattan Beach extend seaward of the mean high tide line and continue to 3 nautical miles offshore. In San Diego, the Commission retains jurisdiction in state waters (between the mean high tide line and offshore 3 nautical miles) and also inland along city streets (a total of approximately 2.5 miles).

As described below, the proposed project will result in temporary preclusion impacts to recreational fishing and boaters. Onshore in San Diego, the public’s access to Pacific Beach could be impacted due to the closure of 18 parking spaces at the Pacific Beach Drive parking lot.

Offshore Impacts

Offshore the Morro Bay landing, boating, fishing, and diving are popular recreational activities. Six to ten charter recreational fishing vessels, making roughly 1,000 to 1,200 trips per year, operate out of Morro Bay Harbor and Port San Luis. Several hundred private recreational fishing vessels operate out of the area with most activity occurring during the summer and fall. Charter and private vessels target rockfish, lingcod, surf perches, flatfish, halibut, salmon, and tuna. Recreational fishing is by hook-and-line and takes place primarily within 3 nautical miles of

shore. Salmon trolling occurs parallel to the shore out to depths of just over 50 fathoms from near Point Sal to Cayucos.

The entire coastal area from Manhattan Beach to San Diego is popular for recreational fishing and boating, especially near the marinas at Long Beach, Newport Beach, Dana Point, Oceanside, and San Diego. The landing site at San Diego is 2.5 miles north of the entrance to Mission Bay, which has several marinas and public boat launches. Even greater numbers of recreational boating facilities are found in San Diego Bay 6.5 miles south of the landing site. According to statistics from the Department of Fish and Game, in 1999, 75 charter recreational fishing vessels serviced 176,589 anglers out of Mission Bay. Off of Redondo Beach, Marina del Rey, and Malibu, 23 vessels were patronized by 59,067 anglers. At Port Hueneme, Oxnard, Ventura, and Santa Barbara, 38 recreational fishing vessels transported 62,499 anglers during fishing excursions. These anglers targeted fish species such as tuna (yellow tail, albacore, bluefin), rockfish, salmon, halibut, mackerel, and barracuda.

Pursuant to the federal Submarine Cable Act (47 U.S.C. 21), the master of any vessel must keep a distance of at least one nautical mile from a vessel engaged in laying or repairing a cable. In addition, the master of any vessel must also remain at least one-quarter nautical mile from a buoy intended to mark the position of a cable when being laid or when out of service. These short-term restrictions will apply for a total of 53 days to recreational fishing vessels and boaters in the project area during nearshore cable installation activities. By segment, the total restriction is as follows: 15 days from San Diego to Manhattan Beach; 18 days from Manhattan Beach to Santa Barbara and; 20 days from Santa Barbara to Morro Bay.

The preclusion zones created by cable installation activities will be temporary or in constant motion as the cables are being laid and/or buried so there will be sufficient access to other fishing and boating areas in the project area. Moreover, once the cables are buried, the exclusion zone becomes ineffective, allowing unrestricted access to these areas. Fishing could occur at locations within the route, but away from the vessel, throughout the installation period. Because of the temporary and short-term nature of the cable preclusion zones, the disruption of recreational fishing and boating is not significant.

Notwithstanding the above, to minimize any potential conflicts with recreational boating, fishing or diving activities, at least 15 days prior to commencement of offshore construction activities, the applicant will file an advisory of pending offshore construction operations, including all vessel activities, work locations, and schedules, with the local U.S. Coast Guard District Office for publication in the Local Notice to Mariners. The applicant will also provide the same notice directly to the harbor masters in the ports near the affected areas, fishing associations, and other local fishermen who request it so that mariners and recreational fishing vessels will be informed of offshore project activities and vessels at all times.

Pacific Beach in San Diego

Pacific Beach, adjacent to the San Diego landing site, is approximately 2 miles long and is used extensively by residents and tourists for activities such as surfing, swimming, walking, and volleyball. An adjoining bike path accommodates bicyclists, joggers, and roller bladers. The

beach is accessible by non-automobile modes of transportation from streets that terminate at turf areas adjacent to the beach. Directional drilling activities would occur at the Pacific Beach Drive parking lot and would occupy the entire lot (18 parking spaces) for 21 days from approximately December 19, 2000-January 18, 2001. Portions of the proposed onshore route on Pacific Beach Drive provide critical beach access to Pacific Beach. Pacific Beach Drive is a two-lane street that supports significant seasonal vehicular traffic use where it terminates at a bike path at the beach.

While access via the Pacific Beach Drive parking lot would be precluded during the closure of the parking lot, the impact will be temporary and minimal since the applicant will avoid the peak summer beach use period and will provide in-kind alternative parking nearby. The applicant has rented a private lot for storing construction equipment and providing temporary public parking with at least 18 spaces (maximum of 36) on the northeast corner of Mission Blvd. and Pacific Beach Drive, approximately 300 feet from the landing site. The lot will be rented for two months until March 2001 after which, if the project is not completed in San Diego, another rental agreement will be negotiated. Moreover, there are eight alternate public parking lots in the adjacent Mission Beach community. These lots are located west of Mission Blvd. and further south near Belmont Park, West Mission Bay Drive, and Bonita Cove providing a total of roughly 2,000 parking spaces. During winter months, the parking lots are from approximately 1/2 to 2/3 full. Despite the fact that the nearest lot is approximately 1/2 mile from Pacific Beach, they provide access to similar recreational experiences as the Pacific Beach Drive lot. Street parking is also available on all streets near the project area.

The applicant has committed to posting signs at the closed parking lot identifying the duration of the closure and the locations of alternative parking areas. Sidewalks to the north, south, and west side of the closed lot will remain unobstructed. Access to nearby public restrooms and into the parking areas of the two adjacent motels will not be affected. Moreover, **Special Condition 18** prohibits project construction at the Pacific Beach Drive parking lot during popular beach use periods between December 23-25, December 31-January 1, and Memorial Day weekend through Labor Day.

Cable pulling operations in existing conduit will occur under city streets and sidewalks. To minimize disruption to peak traffic periods, work will not commence before 8:30 a.m. and will be completed by 3:30 p.m. Traffic control procedures pursuant to City of San Diego and California Department of Transportation traffic plans will be complied with. The applicant has committed to completing installation in these areas as quickly as possible to minimize traffic disruption. No public staging areas will be used for storage of installation equipment or materials. The applicant will install noise reduction mufflers on drilling equipment, and use sound blankets or walls in order to comply with the City of San Diego's noise ordinance. Because a contractor has not been selected to undertake cable pulling operations, the applicant has not submitted construction plans and site-specific traffic control procedures to Commission staff. **Special Condition 19** requires that prior to cable pulling operations in San Diego, the applicant shall submit to the Executive Director for approval construction plans that are consistent with the project description.

For the above reasons, the Commission finds that the project, as conditioned, will not interfere with the public's ability to access and recreate at the coast and is therefore consistent with Coastal Act §30211 and 30220.

4.5.6 Cultural Resources

Coastal Act §30244 states:

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

Historical and cultural resources are defined as those areas of the marine environment that possess historical, cultural, archaeological or paleontological significance, including sites, structures, or objects significantly associated with, or representative of earlier people, cultures and human activities and events. Of concern here is the potential for offshore cable-laying activities to disturb or damage shipwrecks of potential cultural resource value.

According to the EIR, the proposed sea route was designed to avoid potential shipwrecks identified by the State Lands Commission ("SLC") and the U.S. Minerals Management Service. Marine surveys using side-scan sonar, sub-bottom profiling, and diver inspections were conducted to locate and avoid any obstacles, including shipwrecks or suspected shipwrecks. Results from a shallow water survey did not identify any evidence of marine cultural resources in the shallow waters (*e.g.*, the beach to 20 meter water depths) examined by divers. Unidentified side-scan targets, none of which were interpreted as maritime resources, are all less than 2 meters in width and less than 1 meter in height.

In contrast, results from a deeper water remote sensing survey identified strong sonar returns that, according to the EIR, could represent shipwrecks. All but six sonar contacts are more than 100 meters from the proposed sea route. However, the six contacts include two that are described as shipwrecks or potential shipwrecks. Contact with these shipwrecks as a result of cable installation operations would result in significant impacts.

In order to mitigate this potentially significant impact, the applicant will prepare for SLC review and approval a Marine Cultural Resources Inventory and Avoidance Plan to be prepared by a qualified marine archaeologist. The plan will include a review of previous investigations and remote sensing data in order to identify sonar contacts that may represent potential submerged cultural resources that could be affected during installation. These resources will be plotted on construction maps in addition to the delineation of avoidance corridors. Areas requiring further review will be surveyed with a magnetometer under the observation of the marine archaeologist. Known or suspected resources will be recorded and the cable route will be re-routed to avoid these areas.

Moreover, as a condition to the applicant's SLC permit for the proposed project, the SLC has required: (1) the submission of a detailed analysis of side scan sonar and magnetometer data by a qualified marine archaeologist to identify all anomalies that occur in the cable corridor prior to

the pre-lay grapnel run and cable installation work and; (2) modification of the cable route, if necessary, to avoid any previously unknown shipwrecks of potential cultural resource value discovered as a result of the study.

The Commission thus finds that the project will be consistent with Coastal Act §30244, which requires that mitigation measures be in place in the event that a development would adversely impact a cultural resource.

4.5.7 Air Quality

Coastal Act §30253(3) states:

New development shall:

(3) Be consistent with the requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.

For regulatory purposes, air pollutants are generally recognized as “criteria pollutants” or as toxic air pollutants. Criteria pollutants include carbon monoxide (“CO”), nitrogen oxide (“NO₂”), sulfur dioxide (“SO₂”), particulate matter with a diameter of up to 10 microns (“PM₁₀”), lead, sulfates and hydrogen sulfide. Toxic air pollutants are those known or suspected to cause cancer, genetic mutations, birth defects, and other serious illness to people. Reactive organic gases (“ROG”) are also of concern because of their role in forming ozone, a secondary pollutant. Federal and state pollutant standards are established by the U.S. Environmental Protection Agency and California Air Resources Board, respectively.

Emissions of ROG, NO_x, SO₂, CO, and PM₁₀ will be generated from the following offshore construction activities: pre-lay surveys; grapnel runs; cable-laying; post-lay burials with ROV and jetting; and post-lay surveys. Of particular concern is the release of NO_x emissions due to construction activities. Nitric oxide is a colorless gas formed during combustion processes, which rapidly oxidizes to form NO₂, a brownish gas.

The San Luis Obispo Air Pollution Control District (“SLOAPCD”) is the local air pollution control district responsible for implementing federal and state air quality standards in the project area in San Luis Obispo County. The EIR indicates that project NO_x emissions will exceed the SLOAPCD CEQA threshold of 185 pounds per day for offshore and onshore cable installation. All emissions will meet quarterly limitations. While no permit will be required for this project, the applicant and the SLOAPCD have come to an agreement whereby the applicant will offset 2.86 tons of NO_x emissions through payment of \$10,000 (at \$3,500/ton NO_x) into a Marine Engine (Replacement) Fund for the first 4 weeks of drilling operations. The applicant will pay \$1,000 for each week that drilling operations extend beyond the 4 week period. The monies will be used exclusively to replace or retrofit two-stroke marine diesel engines operating off of San Luis Obispo County.

At the Santa Barbara landing, the Santa Barbara County Air Pollution Control District (SBAPCD) is responsible for implementing federal and state air quality standards. The

SBAPCD does not consider construction emissions to be significant for the purposes of CEQA review, as these emissions have been considered in the ozone attainment planning process. No permits are required for the proposed project.

The South Coast Air Quality Management District (SCAQMD) is responsible for implementing federal and state air quality standards at the Manhattan Beach landing. No permit will be required for the proposed project. The EIR indicates that project NO_x emissions will exceed the SCAQMD CEQA threshold of 100 pounds per day for offshore and onshore cable installation. The applicant has tentatively reached an agreement with the South Coast Air Quality Management District to offset 2,078 pounds of NO_x emissions by paying for the differential cost of replacing two diesel-powered yard hostlers at the Port of Los Angeles with two yard hostlers powered by propane. The emissions reduction achieved by the replacement will amount to 3,580 pounds per year or 42,960 pounds over the 12-year life of the hostlers. **Special Condition 20** requires that prior to the issuance of this permit, the applicant submit evidence from the SCAQMD that it has approved the applicant's proposal to offset emissions.

At the Pacific Beach landing, the San Diego County Air Pollution Control District (SDCAPCD) is responsible for implementing federal and state air quality standards. No permit will be required for the proposed project. The district has not established daily or quarterly criteria for assessing the significance of air quality impacts for CEQA purposes. The applicant will be using portable engines that will be registered with the California Air Resources Board (ARB). Pursuant to state law, portable equipment that is registered with the ARB can operate without the need to obtain individual permits from local air districts.

Emission reductions achieved through the mitigation measures (including the retardation of the injection timing on diesel-powered vessels, use of low-sulfur fuel, the proper maintenance of diesel-powered construction equipment, measures to reduce particulate emissions) identified in the EIR will be implemented in all air districts as noted above. According to the EIR, these measures, together with the purchase of offsets agreed to in San Luis Obispo County and Manhattan Beach will reduce the project's potential air quality impacts to less than significant levels.

The Commission thus finds that the proposed project, as conditioned, will be carried out consistent with the rules and requirements of the local air district and therefore is consistent with Coastal Act §30253(3).

4.5.8 Geology

Coastal Act §30253(2) states that:

New development shall:

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

Geologic conditions at the four proposed landing sites, where horizontal directional drilling (HDD) operations will take place, and offshore are highly variable. At the Morro Bay landing surface geology at the bore entry point consists of Pleistocene age marine deposits and marine terrace deposits, overlying Cretaceous age Franciscan “San Luis” Formation. Offshore surface geology along the proposed bore alignment has been identified as Miocene age sedimentary rock. Surface geology at the Santa Barbara landing is made up of beach sand deposits underlain by former alluvial deposits, the Santa Barbara Formation, Monterey Formation, and Rincon Shale. The landing in Manhattan Beach is located on a narrow, flat terrace on a west-southwest facing hillside. Surface geology has been mapped as recent Dune Sand and underlain by artificial fill, terrace deposits, and Quaternary Nonmarine Terrace Deposits. Finally, at the San Diego landing, the surface geology is made up of Pleistocene Bay Point Formation and recent Beach Sand. Other geologic units that have been mapped near the site include artificial fill, Pliocene-aged, marine deposits, and the San Diego Formation.

Stability of Landing Sites

The stability of the landing sites relates both to potential coastal bluff failures and to shoreline retreat associated with coastal erosion and/or sea level rise. As demonstrated by a site location review (Baker, 2000) provided by the applicant the four proposed landing sites are each set back sufficiently from the shoreline and/or any bluff present to ensure stability over the expected economic life of the development (approximately 25 years). The setbacks vary from 125 to over 400 feet, and accordingly, detailed shoreline retreat analyses and quantitative slope stability analyses are not necessary. Further, the EIR and project geotechnical investigation reports have concluded that the drilling activities will not contribute to erosion, geologic instability or other destruction at the site.

Dangers to the Submarine Cable by Geologic Processes

The safety of the submarine cable along its route offshore is of concern because, as described in section 4.5.2.3 above, repair operations have the capacity to adversely impact marine organisms. Accordingly, the Commission must find that the cable can be maintained without adversely affecting the marine environment. Practically, this means that breaks in submarine cables must be kept to a minimum. Given submarine currents present on the continental shelf, such burial may not be sufficient to prevent exposure of the cable by scouring. Exposure of the cable on the seafloor could subject it to damage by anchoring or trawling operations. Therefore, **Special Condition 6** requires that every 18 to 24 months for the life of project, the applicant shall survey the portion of the cable route from the mean high tide line to the seaward limit of the territorial waters of the State of California to verify that the cables have remained buried consistent with the as-built cable burial plan required by Special Condition 5. The survey shall be conducted with a remotely operated vehicle (“ROV”) equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, the applicant shall submit to the Executive Director a report describing the results of the survey. If the survey shows that a segment(s) of the cable is no longer buried consistent with the as-built cable burial plan required by Special Condition 5, the applicant shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.

A second area of concern is that the proposed route crosses numerous submarine canyons (among them, Huemene, Santa Monica, Redondo, and La Jolla canyons). Where the cable crosses Santa Monica and La Jolla Canyons, it cannot be buried due to hard bottom conditions. These canyons carry periodic turbidity currents, which are flows of sediment/water mixtures that travel down the axis of the canyons at velocities as high as 100 km/hour. Such currents have historically broken submarine cables in many locations throughout the world. The applicant has provided evidence that such currents are not a likely cause of failure for the proposed cable because, among other reasons, 1) the U.S. Navy has maintained a “SOSUS” cable in canyons off the Big Sur coast for 20 years without problems, and 2) the International Cable Protection Committee (ICPC) maintains statistics that show that geologic processes are only a rare cause for submarine cable failure throughout the world. However, the SOSUS cables traverse the continental shelf nearly at right angles, unlike the proposed route, and so do not cross the number of submarine canyons that the proposed route crosses. The ICPC statistics do show that only two percent of cable faults over the last decade were due to geologic conditions, but there is no information provided as to the geologic hazard environment in which cables have been placed. It may well be that the continental shelf off California is a more geologically hazardous environment than the average conditions from which these statistics were derived.

The applicant provided data however, that shows that the recurrence interval of turbidity currents over at least part of the route (Santa Monica basin) is on the order of 140 years. Given that turbidity currents are typically (but not always) triggered in many canyons simultaneously by events such as earthquakes or severe storms, this recurrence interval likely applies not to canyons individually but to entire systems of canyons. With this in mind, the likelihood that a turbidity current will be triggered during the 25-year expected economic lifespan of the development is relatively low. Further, a turbidity current would not necessarily break a cable it encounters. Accordingly, the risk to submarine cables crossing submarine canyons on the California continental shelf and slope is, therefore, relatively small.

Potential Impacts Related to Horizontal Directional Drilling Activities

Probably the greatest geologic concern related to the project is that horizontal directional drilling activities associated with the installation of cable conduits at the four shore landings could result in release of drilling fluids (bentonite) into the nearshore or marine environment. Most likely is the release of bentonite as a result of a “frac-out,” the propagation of fractures from the drilling bore to the seafloor. Frac-out results from drilling through brittle, fractured and/or poorly consolidated rocks or sediments, the maintenance of too-high fluid pressures in the bore during drilling, and drilling at too shallow a depth below the seafloor. It is the opinion of the Commission’s staff geologist that all of the cable landings are susceptible to frac-out given the local geology: the Morro Bay landing is of particular concern.

The easiest way to guard against the release of drilling fluid into the marine environment through frac-out are to: 1) carefully monitor the level and pressure of drilling fluid and stop drilling when these levels fall below prescribed minimum values (to seal and grout fractures); 2) to replace drilling fluid with water whenever conditions permit, especially as the drill bit is brought to the seafloor at the end of the bore; and 3) to drill in geologic strata that are least susceptible to frac-

out. The applicant proposes to implement measures #1 and #2, as discussed in section 4.6.2.5. Furthermore, in **Special Condition 15**, prior to issuance of this permit, the applicant shall submit for Executive Director approval a project-specific horizontal directional drilling (“HDD”) fluid monitoring and spill contingency plan.

The limited geologic information available at each site, which consists of a minimum of one deep boring near the landing site itself and an interpretive geologic cross-section along the length of the proposed bore, provides useful information to help guide drilling such that it occurs in the strata least likely to be susceptible to a frac-out. However, at none of the four proposed landings does there appear to be a layer that is ideally suited for drilling throughout the length of the bore. Indeed, at Morro Bay and, to a lesser extent, at Santa Barbara and Manhattan Beach, fractured rock, cobble layers, and/or poorly cohesive sands raise cause for concern that frac-outs are a distinct possibility unless carefully guarded against. This risk can be mitigated considerably by drilling at a greater depth below the seafloor than the proposed 50 feet. All other conditions remaining equal, fracture and intergranular porosity and permeability are generally lower at greater depths due to compaction and higher confining pressures, reducing the likelihood of frac-out. Accordingly, in **Special Condition 22**, the Commission is requiring that the bore depth at all landing sites shall be a minimum of 100 feet below the seabed with the exception of the initial bore entry and exit points. The Executive Director may approve a shallower bore depth if, during the drilling process, the applicant submits evidence that there are more favorable geologic conditions (*i.e.*, less possibility of a frac-out) at depths less than 100 feet.

The applicant has committed in its consistency certification to carry out the same requirements of Special Condition 6 to the seaward extent of the project in federal waters.

With the imposition of Special Condition 6, 15, and 22, and the applicant’s commitments in its consistency certification, the Commission finds the proposed project consistent with §30253(2) of the Coastal Act.

4.6 California Environmental Quality Act

As “lead agency” under the California Environmental Quality Act (“CEQA”), the State Lands Commission on June 27, 2000 certified a Mitigated Negative Declaration (MND) and approved leases for the proposed project.

The Commission’s permit process has also been designated by the State Resources Agency as the functional equivalent of the CEQA environmental impact review process. The Commission’s permit review process identified numerous impacts that were not resolved in the mitigated negative declaration. Pursuant to section 21080.5(d)(2)(A) of the CEQA and section 15252(b)(1) of Title 14, California Code of Regulations (CCR), the Commission may not approve a development project “if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment.” The Commission finds that only as conditioned are there no feasible less environmentally damaging alternatives or additional feasible mitigation measures that would substantially lessen any significant adverse impact which the activity may have upon the

environment, other than those identified herein. Therefore, the Commission finds that the project as fully conditioned is consistent with the provisions of the CEQA.

APPENDIX A: STANDARD CONDITIONS

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

APPENDIX B: SUBSTANTIVE FILE DOCUMENTS

Coastal Development Permit Application Materials

Application for Coastal Development Permit E-00-008 dated May 4, 2000, as amended on August 23, 2000.

California Coastal Zone Management Program

Federal Consistency Certification submitted by Global West Network, Inc. on October 5, 2000, as amended November 27, 2000.

Agency Permits and Orders

Clean Water Act Section 401 Water Quality Certification. Issued by the State Water Resources Control Board, August 11, 2000.

Certificate of Public Convenience and Necessity (Decision #99-06-076). Issued by the California Public Utilities Commission on May 20, 1999.

Permit for Telephone Right of Way (No. PRC 8168.9). Approved by the State Lands Commission on June 27, 2000.

Environmental Documents/Reports

SAIC. 2000. Final Environmental Impact Report, "Global West Fiber Optic Cable Project," Vols. I-III. Prepared for the California State Lands Commission.

SAIC. 2000a. Finalizing Addendum to the Draft Environmental Impact Report: AT&T China-U.S. Cable Network. Prepared for the California State Lands Commission.

Morro Group. 2000. Final Environmental Impact, "MFS Globenet Corp./WorldCom Network Services Fiber Optic Cable Project, Vols. I & II. County of San Luis Obispo.

Other

Heezen, B.C. 1957. *Whales entangled in deep sea cables*. Deep-Sea Research 4:105-115.

Imamura, Eiji. 2000. Letter to Dan Chia, California Coastal Commission, regarding potential whale impacts.

Michael Baker Corporation, 2000, "Landing site slope stability analysis", geologic letter report to Dan Chia by E. Glisan (P.E.).